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CHECKLIST

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Checklist of hover flies (Diptera, Syrphidae) of the Republic of Georgia

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Abstract

A checklist of the Syrphidae species of the Republic of Georgia is presented. New hover fly (Diptera: Syrphidae) records from Georgia are provided as a result of field work conducted in 2018. At the same time, published syrphid records for the country are here reviewed and updated. A total of 357 species of hoverflies are now documented from Georgia, 40 of which are reported for the first time. Moreover, DNA barcodes were sequenced for 238 specimens, representing 74 species from this country.

Keywords

DNA barcoding, faunistics, first record, flower flies, hover flies, new record, species list

Introduction

With an almost worldwide distribution, absent from Antarctica and remote oceanic islands, Syrphidae is a very species-rich family of Diptera with more than 6,000 described species (Brown 2009; Thompson 2019). Commonly called flower flies or hover

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flies, adults are associated with flowers that are used as mating sites and energy food sources (pollen and nectar). They are considered essential pollinators of wild flowering plants and crops (Pérez-Bañón et al. 2003a; Ssymank and Kearns 2009; Inouye et al. 2015) and have been used as bioindicators in order to evaluate biodiversity loss and the efficiency of restoration and conservation policies (Sommaggio 1999; Tscharntke et al. 2005; Biesmeijer et al. 2006; Ricarte et al. 2011; Sommaggio and Burgio 2014). Syrphid immatures have a large array of natural histories and are variable in structure and feeding modes (Rotheray 1993, Rotheray and Gilbert 1999, 2011). Some of these larvae play an important role as biological control agents of pests (Schmidt et al. 2004; Bergh and Short 2008; Bugg et al. 2008; Nelson et al. 2012; Eckberg et al. 2015) or as decomposers of organic matter (Lardé 1989; Martínez-Falcón et al. 2012), but some phytophagous larvae may be considered plant pests under certain circumstances (Edwards and Bevan 1951; Stuckenberg 1956; Tompsett 2002).

The Caucasus Region is situated between the Black Sea and the Caspian Sea (Fig. 1) and is one of the global 'biodiversity hotspots' (Myers et al. 2000; Mittermeier et al. 2004; Zazanashvili et al. 2004). The region comprises the Republics of Armenia, Azerbaijan and Georgia (sometimes all together called Transcaucasia), parts of northwestern Turkey, northern Iran, and Russian republics and krais between the Sea of Azov and Black Sea on the west and the Caspian Sea on the east (area known as Ciscaucasia or Northern Caucasus). Georgia lies in the central part of the Caucasus Region and has two major mountainous ranges, i.e., the Greater Caucasus and the Lesser Caucasus.

Regarding species diversity, there is a geographic gap of knowledge in the Caucasus Region, especially on the dipteran fauna (Insecta: Diptera) (Wetzel et al. 2008; Oboňa et al. 2019). The hover fly fauna of Georgia has never been studied in detail. Previous works on the Syrphidae fauna of the Caucasus Region are predominantly done by Soviet authors, published mainly in Russian-language magazines, focusing in the fauna of the Northern Caucasus, although some include the fauna of Armenia and/or Azerbaijan (Portschinsky 1877; Radde 1899; Zaitzev 1912; Paramonov 1926a, 1926b, 1927a, 1927b; Stackelberg 1926, 1960, 1968; Zimina 1960, 1976; Skufjin 1967, 1976; Stackelberg and Richter 1968; Tóth and Günther 1992; Barkalov 1993; Kustov 2006, among others). More recently, Hauser (1998) presented new records for Azerbaijan with the description of two new species. Regarding Georgian syrphid fauna, Levitin (1962) and Tóth (1986) were the only authors who explicitly stated that their studies were entirely conducted in Georgia, and Gudjabidze (2002) is the only work known to the authors with a clear focus to document the syrphid fauna of Georgia. In addition, there are two general bibliographic references for the Palaearctic with notes on the Caucasus Region. The first is Peck (1988), who in her catalogue of Palaearctic Diptera barely mentioned Georgia explicitly, but used very often the term Transcaucasia (TC). Since then, no other work treated the entire Palaearctic syrphid fauna. The second reference is Speight (2018a), who focused on European species of hover flies. Speight (2018a) is a compilation of published works with some personal comments, but includes the distribution of the species with mentions to the Caucasus Region.

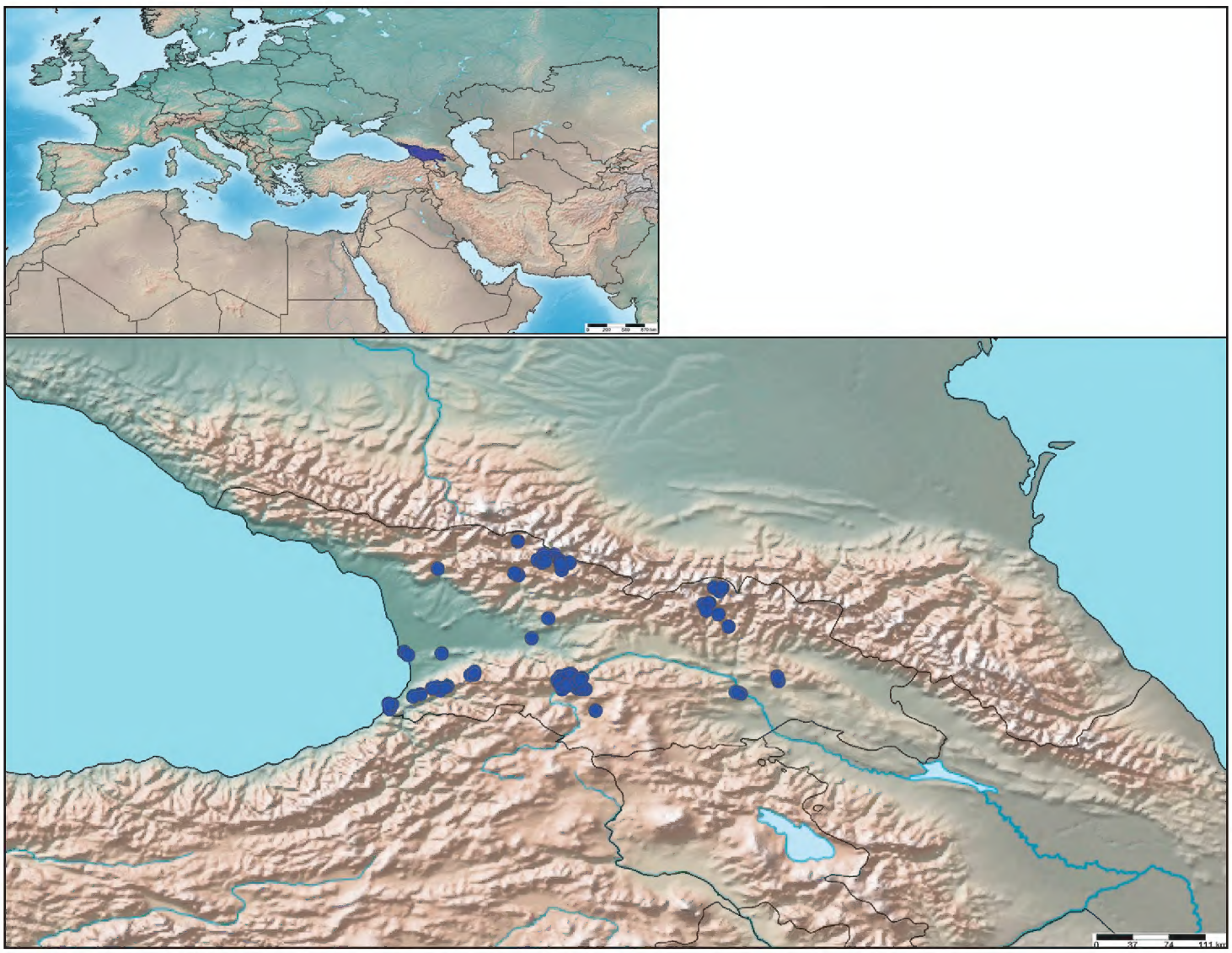

Figure 1. Sampling localities in Georgia during the field work in 2018.

Since 2012, the Zoologisches Forschungsmuseum Alexander Koenig (ZFMK) has coordinated and led the project German Barcode of Life (GBOL; https://www.bolgermany.de/), an initiative to create a DNA barcode library (Hebert et al. 2003a, 2003b) of the German animals, plants and fungi (Geiger et al. 2016). In 2017, the German Federal Ministry of Education and Research (BMBF) granted a proposal to set up a Georgian-German Biodiversity Center (GGBC) as a multinational approach to explore the biodiversity of the Caucasus area (grant number 01DK17048; project's website: https://ggbc.eu/). The experience of GBOL and its infrastructure is supposed to serve as a model for the development of a comparable structure in Georgia, together with other knowledge transfer and exchange of students and researchers between the ISU (Ilia State University, Tbilisi, Georgia) and the ZFMK (Thormann et al. 2019). A continuation of the GGBC is currently planned as a Georgian-Armenian-German initiative, the Caucasus Barcode of Life Platform (CaBOL) (see Thormann et al. 2019 for more details). In the present work, we report the results of a collection expedition between June and July of 2018, as part of the collaboration effort between the ISU and the ZFMK. Within the GGBC framework, we here provide the first DNA barcodes for the syrphid fauna of Georgia, a stepping-stone for ongoing (GGBC) and planned (CaBOL) projects.

Materials and methods

Literature records

Authors used Peck (1988) as the primary source. In this publication, we registered all the species listed in the Transcaucasia (TC), i.e., south of the main ridge of the Caucasus, including Georgia, Armenia and Azerbaijan. Unless the country was explicitly indicated, we have listed to occur in Georgia all the TC species from Peck's (1988) catalogue, and added a note when the species was explicitly listed from Georgia. Based on that keystone publication, we critically reviewed published literature up to date in order to find Georgian records. We assumed that Peck (1988) summarized other important works on the syrphid fauna of the Caucasus such as Stackelberg and Richter (1968) or Levitin (1962), who provided the first Syrphidae records from the Borjomi area, in Lesser Caucasus. Nevertheless, we also studied Levitin (1962) and Stackelberg and Richter (1968) in case some more precise locality details were mentioned in the original works.

In addition, we consulted the Georgian Biodiversity Database (http://biodiversity-georgia.net/index.php), which is a digital compilation of field observations and a summary of the work by Gudjabidze (2002), and two more general publications that somehow were updates of Peck (1988): Barkalov and Mutin (2018) and Speight (2018a). From Speight (2018a), we incorporated species listed from Georgia or the Caucasus; while from Barkalov and Mutin (2018), we included all the species listed as Transcaucasia (TC), although no Georgian records were explicitly given. If a species was listed as TC but no Georgian record was explicitly given, we indicate our records as the first ones for Georgia. Other more specific articles devoted to single taxa were all checked for Georgian records.

We did not study type material for species with uncertain taxonomic status. A revision of the taxonomic status of such species is beyond the scope of the present work. When appropriate, we have indicated such uncertainty under the species remarks. In the same line, we did not study the material reported from Georgia or Transcaucasia from other authors or published works. Nevertheless, we have indicated some remarks about the identification of previous published material.

For the current distribution of the listed species we used Speight (2018a) as the most up-to-date reference, although other published works were consulted for specific taxa in order to obtain a more accurate distribution. We used three different categories in the current distribution with comments: 1) realms such as Palaearctic when the species has a very broad distribution; 2) regions such as Europe or Transcaucasia; and 3) countries, like Georgia, when the species is only known from those countries. For a more detailed geographic distribution, we refer to Speight (2018a).

We need to point out that Gudjabidze (2002) has several systematic and nomenclatural errors. For the sake of traceability, we indicated such nomenclatural errors in the text with a [sic] (*sic erat scriptum* = thus was it written, intentionally so written).

New records

Field expedition took place between 15 June and 27 July 2018. Several Georgian provinces were visited (see Table 1) and all the specimens were collected using a handnet except where indicated. Specimens collected by Sander Bot are deposited in the Sander Bot's Personal Collection (**SBPC**; Haren, the Netherlands); specimens collected by André Reimann and Björn Rulik are deposited in the Senckenberg Museum für Tierkunde (**MTD**; Dresden, Germany) and in the Zoologisches Forschungsmuseum Alexander Koenig (**ZFMK**; Bonn, Germany); and specimens collected by Birthe Thormann, Jana Thormann, Benedikt Wipfler, David Tarkhnishvili, Jonas Astrin, Hans-Joachim Krammer, Marianne Espeland and Ximo Mengual are deposited in the Zoologisches Forschungsmuseum Alexander Koenig (**ZFMK**; Bonn, Germany). The flower flies of three malaise trap samples taken between 29 June and 14 July 2018 in the Kintrishi region as part of the GGBC project (Thormann et al. 2019) were sorted and studied by André Reimann and are also included in the present work. These specimens are deposited in the Zoologisches Forschungsmuseum Alexander Koenig (ZFMK; Bonn, Germany) and some duplicates are deposited in the Senckenberg Museum für Tierkunde (MTD; Dresden, Germany). In addition, material collected in Georgia by Jens-Hermann Stuke in 2001 and deposited at the ZFMK was studied by the first author and included as well.

A list of all the sampling localities with detailed information is given in Table 1 and illustrated in Fig. 1. Geographical coordinates were taken in the field and later corrected using Google Earth ®. SimpleMappr (Shorthouse 2010) was used to create Fig. 1. For the new records, the locality number is given following Table 1 and we indicate the number of specimens and sex and the unique identifier or number at the end. Specimens with unique identifiers starting with ZFMK-DIP or ZFMK-TIS are deposited in the ZFMK collections and are unique for each specimen, while identifiers starting with MTD denote single specimens or lots (group of specimens from the same collecting event) and are deposited in the MTD collections.

Specimens marked with an asterisk (*) are field observations only, so these fly/flies have not been collected. No additional photographic material exists for these field observations.

Adult identification

General works with identification keys were used for generic level, i.e., Thompson and Rotheray (1998), Van Veen (2010), Speight (2018b). More specific works were used to species identifications, for instance Speight and Sarthou (2017) for several genera, Barkalov (1993) for *Cheilosia* Meigen, 1822; Stuke and Nielsen (2002) and Barkalov and Nielsen (2007) for *Platycheirus* Le Peletier and Audinet-Serville, 1828; Doczkal (2002) for *Leucozona* Schiner, 1860; Van Steenis and Lucas (2011) for *Pipizella* Ron-

Table 1. Sampling localities in Georgia from the 2018 field work.

Locality number	Locality	Coordinates	Altitude [m]
L1	Imereti Region, near Borjomi-Kharagauli National Park, Likani	41°49.912'N, 43°20.725'E	850
L2	Imereti Region, Borjomi-Kharagauli National Park, Route 6	41°49.462'N, 43°18.01'E	1330
L3	Imereti Region, Borjomi-Kharagauli National Park, crossing Route 6 and 1	41°49.87'N, 43°16.12'E	1780
L4	Imereti Region, Borjomi-Kharagauli National Park, near Mt. Lomismta	41°52.002'N, 43°15.034'E	2000
L5	Imereti Region, Borjomi-Kharagauli National Park, Route 9	41°51.955'N, 43°13.265'E	1900
L6	Imereti Region, Borjomi-Kharagauli National Park, near Megruki river	41°50.76'N, 43°08.7'E	1800
L7	Imereti Region, Borjomi-Kharagauli National Park, Amarati tourist shelter	41°48.623'N, 43°07.127'E	2050
L8	Imereti Region, Borjomi-Kharagauli National Park, Route 3	41°46.628'N, 43°08.642'E	1720
L9	Samegrelo-Zemo Svaneti, along Enguri Reservoir	42°50.046'N, 42°01.343'E	600
L10	Samegrelo-Zemo Svaneti, slopes northeast of Mestia	43°05.04'N, 42°45.52'E	1800
L11	Samegrelo-Zemo Svaneti, Ushguli	42°55.022'N, 43°01.065'E	2100
L12	Samegrelo-Zemo Svaneti, between Ushguli and Shkhara glacier	42°57.034'N, 43°04.492'E	2275
L13	Samegrelo-Zemo Svaneti, Shkhara glacier	42°57.84'N, 43°05.605'E	2500
L14	Samegrelo-Zemo Svaneti, north of Ushguli	42°56.88'N, 43°01.26'E	2800
L15	Samegrelo-Zemo Svaneti, north of Ushguli	42°57.78'N, 42°59.4'E	2300
L16	Samegrelo-Zemo Svaneti, south of Ushguli	42°54.724'N, 42°56.29'E	2430
L17	Samegrelo-Zemo Svaneti, top of ridge, south of Ushguli	42°53.287'N, 42°58.736'E	2828
L18	Samegrelo-Zemo Svaneti, slopes south of Ushguli	42°53.82'N, 43°00.48'E	2630
L19	Racha-Lechkhumi and Kvemo Svaneti, along road north of Tsana	42°54.439'N, 43°08.52'E	1900
L20	Racha-Lechkhumi and Kvemo Svaneti, east of Zeskho	42°53.291'N, 43°13.978'E	1900
L21	Racha-Lechkhumi and Kvemo Svaneti, where Zeskho and Tskhenistskali rivers meet	42°49.273'N, 43°09.638'E	1400
L22	Racha-Lechkhumi and Kvemo Svaneti, just east of Lentekhi	42°47.218'N, 42°44.545'E	800
L23	Tbilisi, Tbilisi city, National Botanical Garden	41°41.04'N, 44°48.18'E	500
L24	Adjara Region, Mtirala National Park, Chesnut trail	41°40.725'N, 41°51.878'E	290
L25	Adjara Region, Kintrishi Nature Reserve	41°44.069'N, 41°59.332'E	460
L26	Adjara Region, Kintrishi Nature Reserve	41°44.282'N, 42°00.455'E	595
L27	Guria Region, north from Atsana, along the road	42°03.355'N, 42°03.563'E	275
L28	Guria Region, road to Barkhmaro, creek	41°51.655'N, 42°21.431'E	1935
L29	Guria Region, Barkhmaro, forest	41°51.46'N, 42°19.442'E	2050
L30	Guria Region, road to Barkhmaro, meadow	41°53.179'N, 42°21.685'E	1645
L31	Adjara Region, Kintrishi Nature Reserve, Khino	41°44.069'N, 41°59.498'E	980
L32	Samtskhe-Javakheti, road from Sakire to Tsikhisjvari	41°43.957'N, 43°18.49'E	1600
L33	Samtskhe-Javakheti, road from Sakire to Tsikhisjvari	41°43.82'N, 43°20.087'E	1910
L34	Samtskhe-Javakheti, road from Sakire to Tsikhisjvari	41°43.625'N, 43°22.637'E	2185
L35	Racha-Lechkhumi and Kvemo Svaneti, Tsana	42°53.332'N, 43°08.58'E	1760–1775
L36	Racha-Lechkhumi and Kvemo Svaneti, road to Tsana	42°52.436'N, 43°09'E	1600
L37	Racha-Lechkhumi and Kvemo Svaneti, Lentekhi towards antennae, meadow	42°46.646'N, 42°45.011'E	1370–1405
L38	Racha-Lechkhumi and Kvemo Svaneti, near Lentekhi, antennae, meadow	42°46.468'N, 42°45.814'E	1710
L39	Racha-Lechkhumi and Kvemo Svaneti, Lentekhi	42°47.42'N, 42°43.556'E	760
L40	Adjara Region, Kintrishi Nature Reserve, Didvake, forest	41°44.779'N, 42°01.001'E	1102
L41	Adjara Region, Kintrishi Nature Reserve	41°44.095'N, 41°58.262'E	445
L42	Adjara Region, Mtirala National Park, Mount Mtirala	41°39.484'N, 41°47.9'E	1320
L43	Racha-Lechkhumi and Kvemo Svaneti, Tskhmori, Chalistskali waterfall	42°31.875'N, 43°28.255'E	1225
L44	Imereti Region, NE of Tkibuli, Nakerala Pass	42°22.622'N, 43°02.209'E	1236
L45	Samtskhe-Javakheti, Akhaltsikhe, 3 km NE of Tsinubani	41°43.51'N, 43°09.81'E	904
L46	Samtskhe-Javakheti, Borjomi, mountain lake and surroundings, 9.5 km SSW of Borjomi	41°45.42'N, 43°20.71'E	1770
L47	Samtskhe-Javakheti, Borjomi, river valley 7 km SSW Chitakhevi	41°45.53'N, 43°12.59'E	910

Locality number	Locality	Coordinates	Altitude [m]
L48	Samtskhe-Javakheti, Borjomi, river valley 8 km SW Borjomi	41°47.45'N, 43°18.22'E	840
L49	Mtskheta-Mtianeti, Dusheti, river valley 18 km SSE Kobi	42°24.94'N, 44°35.95'E	1245
L50	Mtskheta-Mtianeti, Dusheti, river valley 30 km SSE Kobi	42°18.13'N, 44°41.41'E	995
L51	Samtskhe-Javakheti, river valley 5 km SW Borjomi	41°48.61'N, 43°20.12'E	840
L52	Mtskheta-Mtianeti, Stepantsminda, shallow moor at highway	42°30.59'N, 44°27.65'E	2372
L53	Mtskheta-Mtianeti, Stepantsminda, river valley SW Stepantsminda	42°37.61'N, 44°36.38'E	1772
L54	Mtskheta-Mtianeti, Stepantsminda, glacial river 6 km west of Stepantsminda	42°39.61'N, 44°33.39'E	2800–3035
L55	Mtskheta-Mtianeti, Stepantsminda, gravel surface 3 km SSE of Kobi	42°31.21'N, 44°30.92'E	2885
L56	Mtskheta-Mtianeti, Stepantsminda, highway near Kumlistsikh	42°26.82'N, 44°29.18'E	1835
L57	Mtskheta-Mtianeti, Stepantsminda, slopes west of Stepantsminda	42°39.55'N, 44°38.20'E	2500
L58	Adjara Region, Khelvachauri, hill 2 km E of Gonio	41°32.66'N, 41°34.91'E	420
L59	Adjara Region, Khelvachauri, river delta 7 km SSW of Batumi	41°35.23'N, 41°36.28'E	7
L60	Adjara Region, Khelvachauri, river delta 8 km SW of Batumi	41°35.66'N, 41°34.37'E	2
L61	Tbilisi, Tbilisi city, park near TV tower	41°41.62'N, 44°47.20'E	715
L62	Tbilisi, Tbilisi city, Turtle Lake	41°42.11'N, 44°45.31'E	692
L63	Kakheti, Sagarejo, 28 km ENE Tbilisi, near Ujarma	41°48'N, 45°09'E	890
L64	Kakheti, Sagarejo, 30 km ENE Tbilisi, near Paldo	41°49.79'N, 45°08.44'E	845
L65	Kakheti, Sagarejo, 32 km ENE Tbilisi, near Iori Reservoir	41°50.73'N, 45°08.20'E	862
L66	Samegrelo-Zemo Svaneti, shore 8 km SSW of Poti	42°04.29'N, 41°42.85'E	0
L67	Guria, wetland 4 km W Ghrmaghele (E of Grigoleti)	42°02.40'N, 41°45.02'E	0
L68	Imereti Region, Zestaponi, river valley 12 km NW Zestaponi	42°11.77'N, 42°53.04'E	137
L69	Adjara Region, Kintrishi Nature Reserve, road side between Didvake and Khino	41°44.734'N, 42°0.844'E –41°43.039'N, 42°02.749'E	790 – 1100
L70	Adjara Region, Kintrishi Nature Reserve, Krummholtz forest, Malaise trap 13	41°45.31'N, 42°06.75'E	2268
L71	Adjara Region, Kintrishi Nature Reserve, above the waterfall, Malaise trap 6	41°44.6'N, 42°05.045'E	1235
L72	Adjara Region, Kintrishi Nature Reserve, woods at Khino monastry, Malaise trap 8	41°44.267'N, 41°58.715'E	403

dani, 1856; Vujić et al. (2013) for *Pipiza* Fallén, 1810; Van Steenis et al. (2016) for *Ceriana* Rafinesque, 1815; Hayat and Claußen (1997) and Sorokina (2009) for *Paragus* Latreille, 1804; Lyneborg and Barkemeyer (2005) for *Syritta* Le Peletier and Audinet-Serville, 1828; Violovitsh (1974), Vujić et al. (2017) and Kazerani et al. (2017) for *Chrysotoxum* Meigen, 1803; Reemer et al. (2005) for *Myolepta* Newman, 1838; Stackelberg (1958) and Van Steenis (2000) for *Spilomyia* Meigen, 1803; Krivosheina (2002, 2004, 2005) for *Temnostoma* Le Peletier and Audinet-Serville, 1828; and Hippa (1968) for *Xylota* Meigen, 1822.

The subgenus for each species, when this applies, has been indicated with the exception of the genus *Eristalinus*, as current subdivision of this genus based on morphological characteristics of the eyes in males (Thompson and Rotheray 1998) is not supported by molecular analyses (Pérez-Bañón et al. 2003b; Sonet et al. 2019).

For the author of the names published in Meigen (1822), the original work by Meigen was used. For the new species published in Meigen (1822), authorship was given to Hoffmannsegg when the abbreviation *Hgg.* appeared after the name; Megerle when abbreviation *Meg.* appeared after the name; Wiedemann when abbreviation *Wied.* appeared after the name; and to Meigen when no abbreviation was written after the name of the new species.

Molecular methods

DNA barcodes (Hebert et al. 2003a, 2003b) were generated by following the standard protocols of the GBOL (German Barcode of Life) project (Geiger et al. 2016; http://www.bolgermany.de). Total genomic DNA was isolated from one or two legs using the DNeasy Blood and Tissue Kit and the BioSprint96 magnetic bead extractor by Qiagen (Hilden, Germany). Remnants of specimens were preserved and labelled as DNA voucher specimens for the purpose of morphological studies and deposited at the ZFMK. Polymerase chain reaction (PCR) for the mitochondrial cytochrome c oxidase subunit 1 (COI) gene was carried out in total reaction mixes of 20 µl, including 2 µl of undiluted DNA template, 0.8 µl of each primer (10 pmol/µl), and standard amounts of the reagents provided with the 'Multiplex PCR' kit from Qiagen (Hilden, Germany). LCO1490-JJ [5'-CHACWAAYCATAAAGATATYGG-3'] and HCO2198-JJ [5'-AWACTTCVGGRTGVCC AAARAATCA-3'] (Astrin and Stüben 2008) were used as standard primers.

Thermal cycling was performed on Applied Biosystems 2720 Thermal Cyclers (Life Technologies, Carlsbad, CA, USA), using a PCR program with two cycle sets, as a combination of a 'touchdown' and a 'step-up' routine as follows: hot start Taq activation: 15 min at 95 °C ; first cycle set (15 repeats): 35 s denaturation at 94°C, 90 s annealing at 55°C (–1°C per cycle) and 90 s extension at 72°C; second cycle set (25 repeats): 35 s denaturation at 94°C, 90 s annealing at 40°C, and 90 s extension at 72°C; final elongation 10 min at 72 °C. Unpurified PCR products were subsequently sent for bidirectional Sanger sequencing to BGI (Hong Kong, China). The sequences were edited for base-calling errors and assembled using Geneious R7 (version 7.1.3, Biomatters Ltd.) and all new sequences were submitted to GenBank (see accession numbers under each species).

We compared the newly obtained DNA barcodes from Georgian specimens with COI sequences present in GenBank (https://www.ncbi.nlm.nih.gov/genbank/) and in BOLD systems (http://www.boldsystems.org/index.php). We provided the Barcode Index Number (BIN) (Ratnasingham and Hebert 2013) for the sequenced taxa and for their nearest neighbour in BOLD systems when they had a BIN.

Results

A total of 2,312 specimens were studied. We reported 357 different species belonging to 78 genera, with 40 species recorded from Georgia for the first time. Moreover, we were able to sequence DNA barcodes for 238 specimens (GenBank accession numbers for each species are provided under the section Genetics) representing 74 species from this country (see Suppl. material 1: Figure S1). The species are listed in alphabetic order.

Checklist of Syrphidae of Georgia

Anasimyia contracta Torp & Claußen, 1980

New records. GEORGIA • 1♀; L63, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058254.

Distribution. Western Palaearctic.

Remarks. Reported for Georgia for the first time.

Anasimyia lineata (Fabricius, 1787)

Reference. Gudjabidze (2002) as *Helophilus lineatus* (Fallén, 1787) [sic].

New records. GEORGIA • 1♀; L46, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058023.

Distribution. Palaearctic.

Anasimyia lunulata (Meigen, 1822)

Reference. Peck (1988); Barkalov and Mutin (2018).

Distribution. Northern and Central Europe, British Isles, and European parts of Russia.

Anasimyia transfuga (Linnaeus, 1758)

Reference. Peck (1988).

Distribution. Northern and Central Europe, Balkan Peninsula and eastwards to European Russia, and as far as central Siberia.

Baccha elongata (Fabricius, 1775)

Reference. Tóth (1986) as Baccha elongata (Fabricius, 1775) and as *Baccha obscuripennis* Meigen, 1822; Peck (1988); Peck (1988) as *B. obscuripennis*; Gudjabidze (2002) as *Baccha elongate* (Fallen, 1817) [sic]; Gudjabidze (2002) as *B. obscuripennis*; Seropian (2013a) as field observation.

New records. GEORGIA • 1♀; L1, 16 Jun 2018, S. Bot leg.; • 1♀; L6, 19 Jun 2018, S. Bot leg.; • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 2♂; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054019 = ZFMK-TIS-8000955, ZFMK-

DIP-00054020 = ZFMK-TIS-8000964; • 1♀; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053673 = ZFMK-TIS-8005557; • 1♂; L26, 18 Jul 2018, X. Mengual; ZFMK-DIP-00053672 = ZFMK-TIS-8005549.

Genetics. We sequenced three specimens (MN621895, MN621896, MN621897), which have identical COI barcode sequences, and represent the first barcodes of this species from Georgia. The BIN for these specimens is BOLD:ABA3006. The average distance within this BIN is 0.19% (p-dist) and the maximum distance is 1.99% (p-dist). The nearest neighbour in BOLD systems is the Nearctic species *Baccha cognata* Loew, 1863 (BOLD:AAG4682).

Distribution. Western Palaearctic.

Remarks. In recent literature (Speight 2018a) *Baccha obscuripennis* Meigen, 1822 is considered a junior synonym of *Baccha elongata*. We follow this synonym here.

Brachyopa bicolor (Fallén, 1817)

Reference. Peck (1988).

Distribution. Palaearctic.

Brachyopa insensilis Collin, 1939

Reference. Peck (1988); Barkalov and Mutin (2018).

Distribution. Western and Central Palaearctic.

Brachyopa pilosa Collin, 1939

Reference. Peck (1988).

New records. GEORGIA • 1♀; L3, 17 Jun 2018, S. Bot leg.; 1♂; L8, 20 Jun 2018, S. Bot leg.

Distribution. Northern and Central Europe, and European parts of Russia.

Brachypalpoides lentus (Meigen, 1822)

Reference. Levitin (1962) as *Zelima lenta* Mg.; Peck (1988); Gudjabidze (2002) as *Xylota lenta* Linnaeus, 1758 [sic]; Barkalov and Mutin (2018).

Distribution. Europe, European parts of Russia, and Asia Minor.

Brachypalpus (*Brachypalpus*) *chrysites* Egger, 1859

Reference. Peck (1988); Gudjabidze (2002); Mutin and Ichige (2018) from West Transcaucasia.

New records. GEORGIA • 1♂ 1♀; L4, 18 Jun 2018, S. Bot leg.

Distribution. Mountainous parts of central Europe and Pyrenees, Balkan Peninsula, Turkey, and European parts of Russia.

Brachypalpus (*Brachypalpus*) *nigrifacies* Stackelberg, 1965

Reference. Peck (1988); Gudjabidze (2002) as *Brachypalpus nigrifacies* Stackelberg, 1958 [sic]; Barkalov and Mutin (2018); Mutin and Ichige (2018).

Distribution. Transcaucasia.

Caliprobola aurea (Sack, 1910)

Reference. Peck (1988) listed only from Azerbaijan; Speight (2018a).

Distribution. South of the Caucasus Mountains in Georgia and Azerbaijan.

Caliprobola speciosa (Rossi, 1790)

Reference. Levitin (1962) as *Calliprobola specioza* Rossi [sic]; Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂; L3, 17 Jun 2018, S. Bot leg.; *1; L8, 20 Jun 2018, S. Bot obs.

Distribution. Palaearctic.

Callicera aenea (Fabricius, 1777)

Reference. Peck (1988); Gudjabidze (2002).

Distribution. Palaearctic.

Remarks. Speight (2018a) affirmed that the range of this species needs a reassessment because it can be confused with *Callicera aurata* (Rossi, 1790).

Callicera aurata (Rossi, 1790)

Reference. Barkalov and Mutin (2018) as *C. aurata*; Barkalov and Mutin (2018) as *Callicera zhelochovtsevi* Zimina, 1982; Speight (2018a).

Distribution. Western Palaearctic, including Transcaucasia.

Remarks. Speight (1991) synonymised *C. zhelochovtsevi* under *C. aurata* based on the study of specimens determined by Zimina. Distribution requires reassessment due to the confusion with *C. aenea* (Speight 2018a).

Callicera rohdendorfi Zimina, 1982

Reference. Peck (1988); Barkalov and Mutin (2018); Speight (2018a).

Distribution. Crimea and Georgia.

Remarks. The taxonomic status of *C. rohdendorfi* is unclear. Speight (1991) suggested that this species is the same species as *Callicera macquarti* Rondani, 1844, but he did not see any material identified as *C. rohdendorfi*. Without further evidence, we keep it as a valid species.

Ceriana conopsoides (Linnaeus, 1758)

Reference. Levitin (1962) as *Cerioides conopoides* L. [sic]; Peck (1988); Gudjabidze (2002) as *Ceriana caucasica* (Paramonov, 1925) [sic]; Barkalov and Mutin (2018).

New records. GEORGIA • 1♀; L64, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058047.

Distribution. Palaearctic.

Remarks. Van Steenis et al. (2016) synonymised *Ceriana caucasica* (Paramonov, 1927) (Paramonov 1927a) under *C. conopsoides*.

Chalcosyrphus (*Xylotina*) *nemorum* (Fabricius, 1805)

Reference. Peck (1988).

New records. GEORGIA • 2♂; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053787 = ZFMK-TIS-8005576, ZFMK-DIP-00053789; • 2♂ 2♀; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054079, ZFMK-DIP-00054080 = ZFMK-TIS-8000966, ZFMK-DIP-00053791, ZFMK-DIP-00053792; • 2♂; L26, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053788 = ZFMK-TIS-8005568, ZFMK-DIP-00053790; • 1♂; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4523; • 2♂ 3♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002740, ZFMK-TIS-8002741, ZFMK-TIS-8002742, ZFMK-TIS-8002743, ZFMK-DIP-00061261]; • 1♂; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4564; 2♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4593; • 1♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002772.

Genetics. We obtained seven COI barcodes for this species (MN621898, MN621899, MN621900, MN621901, MN621902, MN621903, MN621904), all with identical COI sequence (0% p-dist). The BIN for these specimens is BOLD:AAG6762, with an average distance of 0.26% and a maximum distance of 2.41%. The nearest neighbour in BOLD systems is the Nearctic species *Chalcosyrphus* (*Xylotomima*) *anomalus* (Shannon, 1925) (BOLD:AAQ2056).

Distribution. Holarctic.

Chalcosyrphus (*Xylotodes*) *eunotus* (Loew, 1873)

Reference. Peck (1988) listed it from Armenia; Speight (2018a).

Distribution. Western Palaearctic.

Chalcosyrphus (*Xylotodes*) *piger* (Fabricius, 1794)

Reference. Peck (1988); Gudjabidze (2002) as *Xylota pigra* Fabricius, 1777 [sic].

New records. GEORGIA • 1♂; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L5, 18 Jun 2018, S. Bot leg.

Distribution. Holarctic.

Chalcosyrphus (*Xylotomima*) *pannonicus* (Oldenberg, 1916)

Reference. Peck (1988).

New records. GEORGIA • 1♂; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002758.

Genetics. We sequenced one specimen of this taxon (MN621905). BOLD has no data for *C. pannonicus*, so this sequence is the first one to be registered in BOLD. The closest taxon in BOLD systems is the Nearctic species *Chalcosyrphus* (*Xylotomima*) *anthreas* (Walker, 1849), BOLD:AAY8777.

Distribution. Poland, Carpathian Mountains, Balkan Peninsula, Greece, and Transcaucasia.

Chalcosyrphus (*Xylotomima*) *rufipes* (Loew, 1873)

Reference. Peck (1988); Speight (2018a).

Distribution. Palaearctic.

Chalcosyrphus (*Xylotomima*) *valgus* (Gmelin, 1790)

Reference. Tóth (1986) as *Xylotomima femoralis* (Linnaeus, 1758); Peck (1988) as *Chalcosyrphus* (*Xylotomima*) *femoratus* (Linnaeus, 1758); Barkalov and Mutin (2018).

Distribution. Palaearctic.

Remarks. Thompson et al. (1982) explained that the concept of Loew (1854) for "*femorata* Linnaeus" is a junior synonym of *Musca valga* Gmelin, 1790.

Cheilosia (*Cheilosia*) *abagoensis* Skufjin, 1979

New records. GEORGIA • 1♂; L12, 24 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.

Distribution. Transcaucasia.

Remarks. Described from Krasnodar region and reported from this area by Barkalov (1993) and Barkalov and Mutin (2018). Reported for Georgia for the first time.

Cheilosia (*Cheilosia*) *aerea* Dufour, 1848

Reference. Peck (1988) as *Cheilosia zetterstedti* Becker, 1894; Gudjabidze (2002) as *C. zetterstendti* Becker, 1921 [sic]; Barkalov and Mutin (2018); Speight (2018a).

Distribution. Western Palaearctic.

Remarks. Claußen and Thompson (1996) synonymised *C. zetterstedti* under *C. aerea*.

Cheilosia (*Cheilosia*) *albipila* Meigen, 1838

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Cheilosia albipina* Meigen, 1822 [sic].

Distribution. Western and Central Palaearctic.

Cheilosia (*Cheilosia*) *albitarsis* (Meigen, 1822)

Reference. Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♀; L1, 15 Jun 2018, S. Bot leg.; • 1♀; L1, 16 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♂ 3♀; L11, 29 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.; • 2♀; L20, 30 Jun 2018, S. Bot leg.; • 1♂; L19, 1 Jul 2018, S. Bot leg.; • 1♀; L21, 2 Jul 2018, S. Bot leg.

Distribution. Holarctic.

Remarks. Geographic distribution needs reassessment as old species records need reconfirmation after Doczkal (2000a).

Cheilosia (*Cheilosia*) *bergenstammi* Becker, 1894

Reference. Peck (1988); Barkalov and Mutin (2018).

Distribution. Western Palaearctic.

Cheilosia (*Cheilosia*) *bracusi* Vujić & Claußen, 1994

Nem records. GEORGIA • 2♀; L4, 18 Jun 2018, S. Bot leg; • 2♀; L6, 19 Jun 2018, S. Bot leg.

Distribution. Southern and Central Europe, and Balkan Peninsula.

Remarks. Reported for Georgia for the first time.

Cheilosia (*Cheilosia*) *brunnipennis* Becker, 1894

Reference. Peck (1988) as *Cheilosia sareptana* Becker, 1894.

Distribution. Western Palaearctic.

Remarks. Vujić (1996) synonymised *C. sareptana* under *C. brunnipennis*.

Cheilosia (*Cheilosia*) *canicularis* (Panzer, 1801)

Reference. Radde (1899); Levitin (1962); Peck (1988); Gudjabidze (2002) as *Cheilosia canicularis* Panzer, 1798 [sic].

New records. GEORGIA • 1♂; L16, 27 Jun 2018, S. Bot leg.; • 1♂ 1♀; L20, 30 Jun 2018, S. Bot leg.; • 2♂ 2♀; L20, 1 Jul 2018, S. Bot leg.; • 1♀; L20, 2 Jul 2018, S. Bot leg.; • 3♂; L21, 3 Jul 2018, S. Bot leg.; • 1♂; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053871; • 1♂; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053872; • 1♀; L31, 21 Jul 2018, J. Astrin leg.; ZFMK-TIS-8000118; • 2♂ 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053873 = ZFMK-TIS-8005511, ZFMK-DIP-00053976 = ZFMK-TIS-8003440, ZFMK-DIP-00053897; • 1♂; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053874; • 1♂; L33, 23 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054023 = ZFMK-TIS-8000982; • 1♂; L34, 23 Jul 2018, J. and B. Thormann leg.; ZFMK-TIS-8004303; • 10♂ 3♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053875, ZFMK-DIP-00053876, ZFMK-DIP-00053877, ZFMK-DIP-00053878, ZFMK-DIP-00053879, ZFMK-DIP-00053880, ZFMK-DIP-00053881, ZFMK-DIP-00053882, ZFMK-DIP-00053883, ZFMK-DIP-00053975 = ZFMK-TIS-8003452, ZFMK-DIP-00053898, ZFMK-DIP-00053901, ZFMK-DIP-00053906; • 4♂ 3♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053884, ZFMK-DIP-00053886, ZFMK-DIP-00053887, ZFMK-DIP-00053893, ZFMK-DIP-00053899, ZFMK-DIP-00053900 = ZFMK-TIS-8005518, ZFMK-DIP-00053905; • 1♂; L37, 25 Jul

2018, B. Thormann leg.; ZFMK-TIS-8004124; • 8♂ 2 ♀;L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053885, ZFMK-DIP-00053888, ZFMK-DIP-00053889, ZFMK-DIP-00053890, ZFMK-DIP-00053891, ZFMK-DIP-00053892, ZFMK-DIP-00053896, ZFMK-DIP-00053977 = ZFMK-TIS-8003421, ZFMK-DIP-00053903, ZFMK-DIP-00053904; • 2♂ 1♀; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053894, ZFMK-DIP-00053895, ZFMK-DIP-00053902; • 2♂; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4506, ZFMK-TIS-8002665; • 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002757.

Genetics. The GenBank accession numbers for the seven sequenced specimens are MN621906, MN621907, MN621908, MN621909, MN621910, MN621911, MN621912. Our newly obtained DNA barcodes were virtually identical (0–0.1% p-dist). The BIN for this taxon is BOLD:ACI2500. Identification via DNA barcodes is not straightforward as *C. canicularis* and its nearest neighbour in BOLD systems, *Cheilosia himantopa* (Panzer, 1798), differ only 1.28% p-dist.

Distribution. Central Europe and Turkey.

Remarks. Geographic distribution needs reassessment after Stuke and Claußen (2000) reinstated *C. himantopa* (Panzer, 1798), a closely similar species of *C. canicularis*.

Cheilosia (*Cheilosia*) *chloris* (Meigen, 1822)

Reference. Gudjabidze (2002).

Distribution. Western and Central Palaearctic, into Siberia.

Cheilosia (*Cheilosia*) *flavipes* (Panzer, 1798)

Reference. Peck (1988); Barkalov and Mutin (2018).

Distribution. Western and Central Palaearctic, into Siberia.

Cheilosia (*Cheilosia*) *fraterna* (Meigen, 1830)

Reference. Peck (1988).

Distribution. Western and Central Palaearctic, into Siberia.

Cheilosia (*Cheilosia*) *gigantea* (Zetterstedt, 1838)

Reference. Peck (1988); Gudjabidze (2002) as *Cheilosia gigantean* Zetterstendt, 1843 [sic]; Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♂ 1♀; L4, 18 Jun 2018, S. Bot leg.;• 2♂; L6, 19 Jun 2018, S. Bot leg.; • 1♀; L8, 20 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot

leg.; • 1♂; L12, 24 Jun 2018, S. Bot leg.; • 1♂; L15, 26 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.

Distribution. Palaearctic, except Mediterranean Basin.

Cheilosia (*Cheilosia*) *grossa* (Fallén, 1817)

Reference. Gudjabidze (2002) as *Cheilosia grossa* Meigen, 1822 [sic].

Distribution. Palaearctic and Uttah Pradesh in northern India.

Cheilosia (*Cheilosia*) *impressa* Loew, 1840

Reference. Peck (1988); Gudjabidze (2002) as *Cheilosia impressa* Loew, 1848 [sic]; Speight (2018a).

New records. GEORGIA • 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 2♀; L11, 23 Jun 2018, S. Bot leg.; • 1♀; L11, 29 Jun 2018, S. Bot leg.; • 1♂ 2♀; L12, 24 Jun 2018, S. Bot leg.; • 1♂ 1♀; L14, 25 Jun 2018, S. Bot leg.; • 2♂ 2♀; L15, 26 Jun 2018, S. Bot leg.; • 4♂; L19, 29 Jun 2018, S. Bot leg.; • 1♂ 2♀; L20, 30 Jun 2018, S. Bot leg.; • 1♀; L20, 1 Jul 2018, S. Bot leg.; • 2♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058257, ZFMK-DIP-00058258; • 1♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4530.

Distribution. Palaearctic.

Cheilosia (*Cheilosia*) *lasiopa* Kowarz, 1855

Reference. Tóth (1986) as *Cheilosia honesta* Rondani, 1868.

Distribution. Europe, Caucasus, and European parts of Russia.

Remarks. Peck (1988) listed *Cheilosia* (*Cheilosia*) *lasiopa* Kowarz, 1855 as junior synonym of *C. honesta*. Later, Claußen and Thompson (1996) considered *C. honesta* Rondani as junior synonym of *Cheilosia* (*Cheilosia*) *barbata* Loew, 1857 and the taxon known as *C. honesta* from other authors as synonym of *Cheilosia* (*Cheilosia*) *lasiopa* Kowarz, 1855. Speight (2018a) mentioned that *Cheilosia* (*Cheilosia*) *lasiopa* Kowarz, 1855 appears as *Cheilosia honesta* in recent literature. Thus, it seems reasonable that the taxon identified by Tóth (1986) as *Cheilosia honesta* was, indeed, *C. lasiopa*.

Cheilosia (*Cheilosia*) *latifrons* (Zetterstedt, 1843)

Reference. Peck (1988) as *Cheilosia intonsa* Loew, 1857.

Distribution. Palaearctic.

Remarks. Speight and Lucas (1992) synonymised *C. intonsa* under *C. latifrons*.

Cheilosia (*Cheilosia*) *lenis* Becker, 1894

Reference. Peck (1988) as *Cheilosia omissa* Becker, 1894.

New records. GEORGIA • 6♀; L4, 18 Jun 2018, S. Bot leg.; • 2♂; L5, 18 Jun 2018, S. Bot leg.; • 3♀; L6, 19 Jun 2018, S. Bot leg.; • 1♂; L7, 19 Jun 2018, S. Bot leg.; • 1♂; L8, 20 Jun 2018, S. Bot leg.; • 2♂ 3♀; L10, 22 Jun 2018, S. Bot leg.; • 1♂; L11, 23 Jun 2018, S. Bot leg.; • 1♂ 1♀; L15, 26 Jun 2018, S. Bot leg.; • 1♀; L16, 27 Jun 2018, S. Bot leg.; • 1♂; L17, 28 Jun 2018, S. Bot leg.; • 1♂ 3♀; L19, 29 Jun 2018, S. Bot leg.; • 2♂ 1♀; L20, 30 Jun 2018, S. Bot leg.; • 2♀; L20, 1 Jul 2018, S. Bot leg.; • 1♀; L20, 2 Jul 2018, S. Bot leg.

Distribution. Europe and European parts of Russia.

Remarks. Claußen and Speight (2007) synonymised *C. omissa* under *C. lenis*.

Cheilosia (*Cheilosia*) *melanopa* (Zetterstedt, 1843)

New records. GEORGIA • 5♂; L4, 18 Jun 2018, S. Bot leg.; • 1♀; L5, 18 Jun 2018, S. Bot leg.; • 1♂ 1♀; L6, 19 Jun 2018, S. Bot leg.; • 1♂ 2♀; L7, 19 Jun 2018, S. Bot leg.; • 2♂ 1♀; L12, 24 Jun 2018, S. Bot leg.; • 2♂ 2♀; L14, 25 Jun 2018, S. Bot leg.; • 2♀; L16, 27 Jun 2018, S. Bot leg.; • 1♂; L19, 29 Jun 2018, S. Bot leg.; • 1♀; L20, 30 Jun 2018, S. Bot leg.; • 1♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058102; • 1♀; L55, 31 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058103; • 1♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002723.

Genetics. We sequenced one specimen (MN621914) and the obtained sequence is very similar (98.87%) to the sequence of *C. melanopa* in GenBank (AY533360 from Yugoslavia; BIN = BOLD:AAW3655). BOLD has a second BIN for *C. melanopa* (BOLD:ACE3977 with specimens from Central and Northern Europe), which is very close to BOLD:AAW3655 (2.36% p-dist).

Distribution. Europe.

Remarks. Barkalov (1993) reported this species from Northern Caucasus and Armenia and mentioned that this taxon was polymorphic, with one morph having almost black legs and black pilosity on scutum and scutellum, and a second pale morph with legs partly yellow and mostly yellow pilosity on scutum and scutellum. We sequenced only a single specimen, but there are two BINs in BOLD systems with a relatively high uncorrected pairwise distance (2.36% p-dist; in the range of the p-distance among different species in other species pairs), which might represent these two morphs. Reported for Georgia for the first time.

Cheilosia (*Cheilosia*) *melanura* Becker, 1894

Reference. Peck (1988); Gudjabidze (2002) as *Cheilosia melanura* Becker, 1921 [sic]; Speight (2018a).

Distribution. Mountain ranges in Central Europe, Balkans, and Caucasus Mountains, east to the Baikal Region.

Cheilosia (*Cheilosia*) *mutabilis* (Fallén, 1817)

Reference. Radde (1899); Tóth (1986); Peck (1988) as *C. mutabilis* and as *Cheilosia ruralis* (Meigen, 1822); Gudjabidze (2002) as *C. mutabilis* and as *C. ruralis*; Barkalov and Mutin (2018).

New records. GEORGIA • 1♀; L6, 19 Jun 2018, S. Bot leg.; • 4♂ 13♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058118, ZFMK-DIP-00058119, ZFMK-DIP-00058120, ZFMK-DIP-00058104, ZFMK-DIP-00058105, ZFMK-DIP-00058106, ZFMK-DIP-00058107, ZFMK-DIP-00058108, ZFMK-DIP-00058109, ZFMK-DIP-00058110, ZFMK-DIP-00058111, ZFMK-DIP-00058112, ZFMK-DIP-00058113, ZFMK-DIP-00058114, ZFMK-DIP-00058115, ZFMK-DIP-00058116, ZFMK-DIP-00058117.

Distribution. Western and Central Palaearctic, into western Siberia.

Remarks. Claußen and Speight (1999) synonymised *C. ruralis* under *C. mutabilis*.

Cheilosia (*Cheilosia*) *pagana* (Meigen, 1822)

Reference. Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018).

Distribution. Palaearctic.

Cheilosia (*Cheilosia*) *paragigantea* Barkalov, 1993

New records. GEORGIA • 2♀; L6, 19 Jun 2018, S. Bot leg.; • 1♀; L16, 27 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.

Distribution. Transcaucasia.

Remarks. Barkalov (1993) described this species without indicating any type material, but mentioned that among the type material there were some specimens identified as *C. gigantea* by Stackelberg and Richter (1968). In his identification key, Barkalov (1993) stated that *C. paragigantea* is found in the Lesser Caucasus, but Barkalov and Mutin (2018) reported *C. paragigantea* only from Northern Caucausus. Thus, following Barkalov and Mutin (2018) as the most recent publication, we report this species for Georgia for the first time.

Cheilosia (*Cheilosia*) *proxima* (Zetterstedt, 1843)

Reference. Tóth (1986); Peck (1988).

New records. GEORGIA • 1♀; L6, 19 Jun 2018, S. Bot leg.; • 1♀; L11, 23 Jun 2018, S. Bot leg.; • 1♀; L16, 27 Jun 2018, S. Bot leg.; • 1♂; L19, 29 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L20, 2 Jul 2018, S. Bot leg; • 1♂; L21, 3 Jul 2018, S. Bot leg.

Distribution. Palaearctic.

Cheilosia (*Cheilosia*) *pseudogrossa* Stackelberg, 1968

Reference. Gudjabidze (2002) as *Cheilosia pseudogrossa* Stackelberg, 1956 [sic].

Distribution. Transcaucasia.

Remarks. Stackelberg (1968) described the species from the Northern Caucasus (Teberda, Teberdinsky State Natural Biosphere Reserve), and Gudjabidze (2002) reported it from Tsebelda (Abkhazia region).

Cheilosia (*Cheilosia*) *rhynchops* Egger, 1860

New records. GEORGIA • 1♂; L5, 18 Jun 2018, S. Bot leg.; • 1♀; L6, 19 Jun 2018, S. Bot leg.; • 3♀; L11, 29 Jun 2018, S. Bot leg.; • 2♂; L12, 24 Jun 2018, S. Bot leg.; • 1♂; L14, 25 Jun 2018, S. Bot leg.; • 1♀; L18, 28 Jun 2018, S. Bot leg.; • 2♀; L20, 30 Jun 2018, S. Bot leg.; • 1♀; L21, 2 Jul 2018, S. Bot leg.

Distribution. Europe and Transcaucasia.

Remarks. Reported from the Northern Caucasus by Barkalov (1993), and subsequently by Barkalov and Mutin (2018). Reported for Georgia for the first time.

Cheilosia (*Cheilosia*) *schnabli* Becker, 1894

Reference. Peck (1988); Gudjabidze (2002) as *Cheilosia schnabli* Becker, 1921 [sic]; Speight (2018a) listed it only from Dagestan in the Caucasus.

New records. GEORGIA • 4♂ 2♀; L19, 29 Jun 2018, S. Bot leg.; • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 3♂ 1♀; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L21, 2 Jul 2018, S. Bot leg.; • 1♂; L21, 3 Jul 2018, S. Bot leg.; • 1♂ 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053907 = ZFMK-TIS-8005512, ZFMK-DIP-00053909 = ZFMK-TIS-8005522; • 1♂; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053908 = ZFMK-TIS-8005519; • 1♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054026 = ZFMK-TIS-8000996.

Genetics. The GenBank accession numbers for the three sequenced specimens are MN621915, MN621916, MN621917. The BIN for these specimens is BOLD:ADX7783 and our sequences are very similar (98.62%) with the single previous record of this species in GenBank (LT707517 from Russia).

Distribution. Balkan Peninsula, Transcaucasia, and Kazakhstan.

Cheilosia (*Cheilosia*) *teberdensis* Barkalov, 1993

New records. GEORGIA • 1♀; L14, 25 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.

Distribution. Transcaucasia.

Remarks. Barkalov (1993) described this species from Northern Caucasus and, consequently, Barkalov and Mutin (2018) listed it. Reported for Georgia for the first time.

Cheilosia (*Cheilosia*) *transcaucasica* Stackelberg, 1960

Reference. Peck (1988) listed it only from Armenia and Azerbaijan; Gudjabidze (2002) as *Cheilosia transcaucasika* Stackelberg, 1956 [sic]; Barkalov and Mutin (2018).

New records. GEORGIA • 1♀; L11, 23 Jun 2018, S. Bot leg.; • 1♂ 1♀; L12, 24 Jun 2018, S. Bot leg.; • 2♂ 4♀; L19, 29 Jun 2018, S. Bot leg.; • 2♂ 3♀; L20, 1 Jul 2018, S. Bot leg.; • 1♀; L21, 3 Jul 2018, S. Bot leg.; • 1♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058101.

Distribution. Transcaucasia.

Cheilosia (*Cheilosia*) *urbana* (Meigen, 1822)

Reference. Tóth (1986) as *Cheilosia praecox* (Zetterstedt, 1843); Peck (1988) as *Cheilosia praecox* (Zetterstedt, 1843).

New records. GEORGIA • 1♂; L5, 18 Jun 2018, S. Bot leg.; • 2♂ 3♀; L12, 24 Jun 2018, S. Bot leg.; • 1♂ 1♀; L14, 25 Jun 2018, S. Bot leg.; • 5♂ 2♀; L15, 26 Jun 2018, S. Bot leg.; • 1♀; L16, 27 Jun 2018, S. Bot leg.; • 1♀; L18, 28 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.; • 2♂ 2♀; L20, 30 Jun 2018, S. Bot leg.; • 3♂ 1♀; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L21, 2 Jul 2018, S. Bot leg.

Distribution. Western Palaearctic.

Remarks. Speight et al. (1998) suggested *C. praecox* as a junior synonym of *C. urbana*, and Claußen and Speight (1999) synonymised *C. ruralis* under *C. urbana*.

Cheilosia (*Cheilosia*) *variabilis* (Panzer, 1798)

Reference. Gudjabidze (2002).

New records. GEORGIA • 1♂; L15, 26 Jun 2018, S. Bot leg.; • 1♀; L18, 28 Jun 2018, S. Bot leg.

Distribution. Western and Central Palaearctic, into western Siberia.

Cheilosia (*Cheilosia*) *velutina* Loew, 1840

Reference. Peck (1988); Gudjabidze (2002) as *Cheilosia velutina* Loew, 1848 [sic].

Distribution. Palaearctic.

Cheilosia (*Cheilosia*) *vernalis* (Fallén, 1817)

Reference. Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018).

New records. GEORGIA • 1♂ 1♀; L54, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058263, ZFMK-DIP-00058264; • 2♂ 2♀; L55, 31 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058259, ZFMK-DIP-00058260, ZFMK-DIP-00058261, ZFMK-DIP-00058262.

Distribution. Palaearctic.

Cheilosia (*Cheilosia*) *vulpina* (Meigen, 1822)

Reference. Levitin (1962) as *Cheilosia conops* Becker, 1894; Peck (1988) as *Cheilosia conops*.

Distribution. Western and Central Palaearctic, into western Siberia.

Remarks. Claußen and Speight (1988) synonymised *C. conops* under *C. vulpina*.

Cheilosia (*Convocheila*) *cumanica* Szilády, 1938

Reference. Peck (1988) as *Cheilosia verae* Stackelberg, 1968; Gudjabidze (2002) as *C. verae* Stackelberg, 1956 [sic]; Barkalov and Mutin (2018) as *C. verae*.

New records. GEORGIA • 1♀; L4, 18 Jun 2018, S. Bot leg.; • 1♀; L5, 18 Jun 2018, S. Bot leg.; • 2♀; • 1♂; L12, 24 Jun 2018, S. Bot leg; L16, 27 Jun 2018, S. Bot leg.; • 2♂ 2♀; L19, 29 Jun 2018, S. Bot leg.; • 1♀; L20, 30 Jun 2018, S. Bot leg.; • 3♂; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L20, 2 Jul 2018, S. Bot leg.; • 1♂ 1♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058068, ZFMK-DIP-00058067.

Distribution. Balkan Peninsula, Carpathians Mountains, Iran, and Transcaucasia.

Remarks. Brădescu (1991) synonymised *C. verae* under *C. cumanica*.

Cheilosia (*Convocheila*) *laticornis* Rondani, 1857

Reference. Peck (1988) as *Cheilosia latifacies* Loew, 1857; Gudjabidze (2002) as *Cheilosia latifacies* Loew, 1846 [sic]; Barkalov and Mutin (2018); Speight (2018a).

Distribution. Western and Central Europe, including Transcaucasia.

Remarks. Claußen and Thompson (1996) synonymised *C. latifacies* under *C. laticornis*.

Cheilosia (*Eucartosyrphus*) *flavissima* Becker, 1894

Reference. Peck (1988) as *Cheilosia pallipes* Loew, 1863.

Distribution. Palaearctic.

Remarks. Peck (1988) listed *C. flavissima* as synonym of *C. pallipes*, most likely following Doesburg (1959), but Claußen and Ståhls (2007) separated both taxa and stated that *C. pallipes* applies to specimens from North America.

Cheilosia (*Eucartosyrphus*) *ruffipes* (Preyssler, 1793)

Reference. Peck (1988) as *Cheilosia rufipes* (Preyssler, 1793) [sic] [= *Cheilosia ruffipes* (Preyssler, 1793)]; Gudjabidze (2002) as *Cheilosia soror* Zetterstendt, 1843 [sic].

Distribution. Palaearctic.

Remarks. In 1982, *Eristalis soror* Zetterstedt, 1843 (= *Cheilosia soror*) was synonymised with *Syrphus ruffipes* Preyssler, 1793 (= *Cheilosia ruffipes*) by Rozkošný et al. (1982). This synonymy was followed by subsequent authors, i.e., Peck (1988) listed *C. soror* as synonym of *C. ruffipes* (written as *rufipes* in Peck) and Vujić and Glumac (1994) listed *C. soror* as junior synonym of *C. rufipes* [sic] based on Peck (1988). More recently and without justification, Vujić (1996) accepted *C. soror* as a valid name, as explained in Vujić et al. (2002). In the more recent literature this taxon appears as *Cheilosia soror* (e.g., Van Veen 2010; Speight 2018a; Bot and Van der Meutter 2019), except in Barkalov and Mutin (2018) that is cited as *Cheilosia rufipes*. We keep the original spelling, *Cheilosia ruffipes*, as we think that the spelling by Peck (1988), *Cheilosia rufipes*, is either an error or an unjustified emendation of the name.

Cheilosia (*Eucartosyrphus*) *scutellata* (Fallén, 1817)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018).

New records. GEORGIA • 1♂; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L57, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058077; • 6♂ 2♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058069, ZFMK-DIP-00058070, ZFMK-DIP-00058072, ZFMK-DIP-00058073, ZFMK-DIP-00058074, ZFMK-DIP-00058075, ZFMK-DIP-00058071, ZFMK-DIP-00058076; • 2♀; L64, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058078, ZFMK-DIP-00058079.

Distribution. Palaearctic.

Cheilosia (*Floccocheila*) *illustrata portschinskiana* Stackelberg, 1960

Reference. Portschinsky (1877) as *Cheilosia oestracea* Linnaeus, 1761 [sic]; Radde (1899) as *Cheilosia oestracea*; Peck (1988) listed this subspecies only from Armenia,

its type locality as defined by Stackelberg (1960); Gudjabidze (2002) as *C. oestracae* (Linnaeus, 1758) [sic], as *C. portschinskiana* Stackelberg, 1956 [sic], and as *Eristalis oestraceus* Linnaeus, 1758 [sic]; Barkalov and Mutin (2018) listed this subspecies only from Northern Caucasus.

New records. GEORGIA • 1♂ 1♀; L4, 18 Jun 2018, S. Bot leg.; • 1♀; L5, 18 Jun 2018, S. Bot leg.; • 2♂; L14, 25 Jun 2018, S. Bot leg.; • *3; L14, 25 Jun 2018, S. Bot obs.; • 1♂; L16, 27 Jun 2018, S. Bot leg.; • *4♂; L17, 28 Jun 2018, S. Bot obs.; • 1♂ 1♀; L19, 29 Jun 2018, S. Bot leg.; • *4♀; L20, 30 Jun 2018, S. Bot obs.; • 1♀; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053869 = ZFMK-TIS-8005510; • 3♀; L57, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058098, ZFMK-DIP-00058099, ZFMK-DIP-00058100; • 3♂ 12♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058083, ZFMK-DIP-00058088, ZFMK-DIP-00058097, ZFMK-DIP-00058084, ZFMK-DIP-00058085, ZFMK-DIP-00058086, ZFMK-DIP-00058087, ZFMK-DIP-00058089, ZFMK-DIP-00058090, ZFMK-DIP-00058091, ZFMK-DIP-00058092, ZFMK-DIP-00058093, ZFMK-DIP-00058094, ZFMK-DIP-00058095, ZFMK-DIP-00058096.

Genetics. We sequenced one specimen (MN621913) of *C. illustrata portschinskiana* from Georgia, and its COI sequence has high similarity (99.85%) with previously published sequences of *C. illustrata illustrata* (Harris, 1779) from other Palaearctic countries. The BIN for this species is BOLD:AAK1092.

Distribution. Transcaucasia.

Remarks. Stackelberg (1960) stated that the taxon listed as *Cheilosia oestracea* (and its varieties b, c, d, e, and f) by Portschinsky (1877) was his new species *Cheilosia portschinskiana*. Our specimens fit the description of *Cheilosia illustrata portschinskiana* by Stackelberg (1960). According to Barkalov (1993), *C. illustrata portschinskiana* is the only subspecies of *Cheilosia illustrata* (Harris, 1779) occurring in the Caucasus.

The year of publication for *Cheilosia illustrata* was a convention. The original work by Harris (1776–1780) was published in five 'decads' or parts. Peck (1988) used the conventional date of 1780? with a question mark for decads 3, 4, and 5 based on Lisney (1960). Evenhuis (1997: page 343) established that the decad 4, where *Musca illustratus* is described on page 104, was dated as 1779 based on the latest date of the plates. Thus, the year of publication should be 1779, i.e., *Cheilosia illustrata* (Harris, 1779).

Cheilosia (*Montanocheila*) *alpina* (Zetterstedt, 1838)

Reference. Gudjabidze (2002) as *Cheilosia alpine* Zetterstendt, 1846 [sic].

Distribution. Germany, Northern Europe, Siberia, Mongolia to the Pacific.

Remarks. Gudjabidze (2002) reported this species from Lagodekhi, Batsara canyon (Georgia), but this material was not available to our study. We think it would be necessary to compare the material from Gudjabidze (2002) with specimens from northern latitudes to confirm the presence of this taxon in Georgia.

Cheilosia (*Montanocheila*) *caucasogenita* Kuznetzov, 1997

Reference. Kuznetzov (1997); Barkalov and Mutin (2018) listed it from Northern Caucasus and Armenia.

Distribution. Transcaucasia.

Remarks. Kuznetzov (1997) described this species based on specimens from Armenia, North Ossetia-Alania (Northern Caucasus, Russia) and Georgia.

Cheilosia (*Montanocheila*) *chrysocoma* (Meigen, 1822)

Reference. Gudjabidze (2002).

Distribution. Europe, European parts of Russia, and Siberia.

Cheilosia (*Montanocheila*) *pictipennis* Egger, 1860

Reference. Peck (1988); Gudjabidze (2002).

Distribution. Europe, European parts of Russia, and Siberia.

Cheilosia (*Taeniocheilosia*) *armeniaca* Stackelberg, 1960

Reference. Stackelberg (1960) described it from Armenia; Peck (1988) listed it only from Armenia; Gudjabidze (2002) as *Cheilosia armeniaca* Stackelberg, 1956 [sic]; Ståhls and Barkalov (2017).

New records. GEORGIA • 1♂; L13, 24 Jun 2018, S. Bot leg.

Distribution. Transcaucasia.

Cheilosia (*Taeniocheilosia*) *bakurianiensis* Kuznetzov, 1987

Reference. Kuznetzov (1987); Barkalov (1993) listed from Lesser Caucaus; Barkalov and Ståhls (1997).

Distribution. Only known from Georgia.

Cheilosia (*Taeniochilosia*) *grisella* Becker, 1894

Reference. Peck (1988); Gudjabidze (2002); Speight (2018a).

Distribution. Central Europe, Carpathians Mountains, Balkan Peninsula, and Transcaucasia.

Remarks. Barkalov (1993) stated that *C. grisella* does not occur in the Caucasus, and previous records of this taxon belong to *Cheilosia aenigmatosa* Barkalov, 1993. Ståhls and Barkalov (1997) listed *C. aenigmatosa* as a junior synonym of *C. pollinifacies* Stackelberg, 1968 and considered *C. grisella* as a valid species.

Cheilosia (*Taeniochilosia*) *impudens* Becker, 1894

Reference. Peck (1988); Speight (2018a).

Distribution. Europe and Transcaucasia.

Cheilosia (*Taeniochilosia*) *nigripes* (Meigen, 1822)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002).

Distribution. Palaearctic.

Cheilosia (*Taeniochilosia*) *pollinifacies* Stackelberg, 1968

Reference. Peck (1988) listed it from Northern Caucasus and Azerbaijan; Gudjabidze (2002) as *Cheilosia pollinifacies* Stackelberg 1956 [sic]; Ståhls and Barkalov (1997) listed it from Transcaucasia.

New records. GEORGIA • 2♀; L5, 18 Jun 2018, S. Bot leg.; • 1♂; L6, 19 Jun 2018, S. Bot leg.; • 3♂ 4♀; L12, 24 Jun 2018, S. Bot leg.; • 6♀; L15, 26 Jun 2018, S. Bot leg.; • 2♀; L18, 28 Jun 2018, S. Bot leg.; • 3♂ 8♀; L19, 29 Jun 2018, S. Bot leg.; • 1♂ 2♀; L20, 30 Jun 2018, S. Bot leg.; • 2♂ 1♀; L20, 1 Jul 2018, S. Bot leg.; • 1♂ 2♀; L55, 31 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058122, ZFMK-DIP-00058121, ZFMK-DIP-00058123.

Distribution. Transcaucasia.

Cheilosia (*Taeniochilosia*) *sahlbergi* Becker, 1894

Reference. Peck (1988); Speight (2018a).

Distribution. Europe, European parts of Russia, and Transcaucasia.

Cheilosia (*Taeniochilosia*) *vicina* (Zetterstedt, 1849)

Reference. Tóth (1986) as *Cheilosia nasutula* Becker 1894.

Distribution. Europe, European parts of Russia, Turkey, and Siberia.

Remarks. Lucas et al. (1995) synonymised *C. nasutula* under *C. vicina*.

Chrysogaster cemiteriorum (Linnaeus, 1758)

Reference. Peck (1988) as *Chrysogaster chalybeata* Meigen, 1822; Gudjabidze (2002) as *C. chalybeata*.

Distribution. Palaearctic.

Chrysogaster musatovi Stackelberg, 1952

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 4♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057932, ZFMK-DIP-00057933, ZFMK-DIP-00057934, ZFMK-DIP-00057935.

Distribution. Ukraine, Transcaucasia, Kazakhstan, Kyrgyzstan, and Tajikistan.

Remarks. The taxonomic status of *C. musatovi* is unclear. Maibach et al. (1994a) and Speight (2018a) suggested the possibility that *C. musatovi* and *Chrysogaster basalis* Loew, 1857 could be the same species, and Thompson (2019) listed *C. musatovi* as synonym of *C. basalis*. More taxonomic work and the study of the type material are needed to solve the taxonomic status of *C. musatovi*. The four females here reported key out to *C. musatovi* using the identification key by Stackleberg (1989).

Chrysogaster solstitialis (Fallén, 1817)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002); Speight (2018a).

New records. GEORGIA • 1♂; L21, 2 Jul 2018, S. Bot leg.; • 1♀; L33, 23 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054186 = ZFMK-TIS-8000981.

Genetics. We obtained one DNA barcode for this taxon (MN621918). The BIN for this specimen is BOLD:AAJ4882. The nearest neighbour in BOLD systems (5.31% p-dist) is another BIN (BOLD:AAY8878) identified also as *C. solstitialis* with specimens from Morocco and Spain.

Distribution. Western Palaearctic, European parts of Russia, and Transcaucasia.

Chrysotoxum arcuatum (Linnaeus, 1758)

Reference. Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L15, 26 Jun 2018, S. Bot leg.; • 1♂; L16, 27 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.; • 1♀; L20, 30 Jun 2018, S. Bot leg.; • 1♀; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L21, 3 Jul 2018, S. Bot leg.; • 1♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-

DIP-00053998 = ZFMK-TIS-8003420; • 2♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058245, ZFMK-DIP-00058246.

Genetics. We sequenced one specimen (MN621919) and its COI barcode has 99.18% similarity with a private sequence identified as *Chrysotoxum intermedium* Meigen, 1822.

Distribution. Palaearctic.

Chrysotoxum bicinctum (Linnaeus, 1758)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂; L4, 18 Jun 2018, S. Bot leg.; • 1♂; L15, 26 Jun 2018, S. Bot leg.; • 1♂; L18, 28 Jun 2018, S. Bot leg.; • 2♂; L19, 29 Jun 2018, S. Bot leg.; • 3♂; L20, 30 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.; • *10; L20, 1 Jul 2018, S. Bot obs.; • *20; L21, 2 Jul 2018, S. Bot obs.; • 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054015 = ZFMK-TIS-8000951; • 2♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053636 = ZFMK-TIS-8005536, ZFMK-DIP-00053637 = ZFMK-TIS-8005544; • 1♀; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054016; • 1♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057479; • 1♀; L50, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057480.

Genetics. Two specimens were sequenced (MN621920, MN621921) and their COI sequences showed an uncorrected pairwise distance of 0.152%, very similar to other published sequences of this species (> 99%). The BIN for these specimens is BOLD:AAJ0967.

Distribution. Western and Central Palaearctic into central Siberia.

Chrysotoxum caucasicum Sack, 1930

Reference. Becker (1921) as *Chrysotoxum derivatum* Becker, 1921; Peck (1988); Gudjabidze (2002) as *Chrysotoxum caucasicum* Linnaeus, 1758 [sic]; Barkalov and Mutin (2018).

Distribution. Ukraine, Transcaucasia, Central Palaearctic, into Afghanistan.

Chrysotoxum cautum (Harris, 1778)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018).

New records. GEORGIA • 1♀; L21, 3 Jul 2018, S. Bot leg.; • 1♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002767.

Genetics. One specimen was sequenced (MN621922; BIN = BOLD:AAJ0972), with identical COI sequence to specimens of other countries. The nearest neighbour

in BOLD systems is *Chrysotoxum tuberculatum* Shannon, 1926 (BOLD:ACH8118), a species known from the Far East Region and Sichuan province (China).

Distribution. Europe, Turkey, European parts of Russia, and into Altai Mountains.

Remarks. The year of publication for this species was a convention. Peck (1988) used the conventional dates based on Lisney (1960): 1776 for decad 1, 1776? for decad 2, and 1780? for decads 3, 4, and 5. Evenhuis (1997: page 342) found that the decad 2, where *Musca cautus* is described on page 60, was dated as 1778 in the "*Discours préliminaires*" to the *Encyclopédie méthodique par ordre des matières – Insectes*. Thus, the year of publication should be 1778.

Chrysotoxum cisalpinum Rondani, 1926.

Reference. Peck (1988); Sommaggio 2007.

Distribution. France, Mediterranean Basin, Balkan Peninsula, Transcaucasia, eastwards into Tajikistan and Uzbekistan.

Chrysotoxum elegans Loew, 1841

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Chrysotoxum elegans* Loew, 1848 [sic]; Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♂; L55, 31 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057481.

Distribution. Western Palaearctic, including Transcaucasia and Turkey.

Chrysotoxum fasciolatum (De Geer, 1776)

Reference. Peck (1988); Gudjabidze (2002) as *Chrysotoxum fasciolatum* De egger, 1776 [sic]; Speight (2018a).

New records. GEORGIA • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 2♀; L20, 1 Jul 2018, S. Bot leg.; • 1♂ 1♀; L20, 2 Jul 2018, S. Bot leg.

Distribution. Palaearctic, but not present in southern Europe.

Chrysotoxum festivum (Linnaeus, 1758)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 2♂; L19, 29 Jun 2018, S. Bot leg.; • 3♂; L20, 30 Jun 2018, S. Bot leg.; • 1♂ 1♀; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L20, 2 Jul 2018, S. Bot leg.; • 2♀; L57, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057483, ZFMK-DIP-00057484; • 1♂ 4♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057487,

ZFMK-DIP-00057482, ZFMK-DIP-00057485, ZFMK-DIP-00057488, ZFMK-DIP-00057489.

Distribution. Palaearctic and northern India.

Chrysotoxum intermedium Meigen, 1822

Reference. Peck (1988).

Distribution. Europe.

Remarks. The material from the Caucasus Region referred as *C. intermedium* needs re-examination to reassess its taxonomic identity as *C. lessonae* is reported here and the two species are very similar (see Speight 2018a).

Chrysotoxum lessonae Giglio-Tos, 1890

New records. GEORGIA • 1♂; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053638 = ZFMK-TIS-8005537; • 2♀; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053639, ZFMK-DIP-00053640 = ZFMK-TIS-8005545; • 1♂; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002732.

Genetics. We sequenced three specimens (MN621923, MN621924, MN621925); all with identical COI barcode. This species is not present in BOLD and we are providing the first COI sequences. The obtained sequences have a high similarity with sequences of *Chrysotoxum intermedium* (99.33%; BOLD:AAE9233).

Distribution. Europe, Turkey and Iran (Kazerani et al. 2017; Vujić et al. 2017).

Remarks. Reported for Georgia for the first time.

Chrysotoxum octomaculatum Curtis, 1837

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002) as *Chrysotoxum octomaculatum* Curtis [sic]; Barkalov and Mutin (2018).

Distribution. Western and Central Palaearctic.

Chrysotoxum orthostylum Vujić in Nedeljković et al., 2015

New records. GEORGIA • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L12, 24 Jun 2018, S. Bot leg.

Distribution. Balkan Peninsula, Turkey, and Kyrgyzstan.

Remarks. Reported for Georgia for the first time.

Chrysotoxum parmense Rondani, 1845

Reference. Peck (1988); Speight (2018a).

Distribution. Mediterranean Basin, Iran, Transcaucasia, and Central Palaearctic.

Chrysotoxum parvulum Violovitsh, 1973

Reference. Violovitsh (1973); Peck (1988); Barkalov and Mutin (2018).

New records. GEORGIA • 1♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057510; • 2♂; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L12, 24 Jun 2018, S. Bot leg.; • 1♂; L15, 26 Jun 2018, S. Bot leg.; • 1♂; L16, 27 Jun 2018, S. Bot leg.; • 1♂ 1♀; L19, 29 Jun 2018, S. Bot leg.; • 6♂; L20, 30 Jun 2018, S. Bot leg.; • 2♂ 1♀; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L21, 2 Jul 2018, S. Bot leg.

Distribution. Transcaucasia.

Chrysotoxum robustum Portschinsky, 1887

Reference. Peck (1988).

Distribution. Transcaucasia and Iran.

Chrysotoxum vernale Loew, 1841

Reference. Tóth (1986); Peck (1988); Barkalov and Mutin (2018).

New records. GEORGIA • 5♂; L16, 27 Jun 2018, S. Bot leg.; • 2♂; L17, 28 Jun 2018, S. Bot leg.; • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 2♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057508, ZFMK-DIP-00057509.

Distribution. Palaearctic.

Chrysotoxum verralli Collin, 1940

Reference. Peck (1988); Gudjabidze (2002) as *Chrysotoxum verralli* Collin, 1931 [sic]; Speight (2018a).

Distribution. Europe, European parts of Russia, Transcaucasia, and into Siberia.

Criorhina berberina (Fabricius, 1805)

Reference. Levitin (1962) as *Penthesilea berberina* F.; Tóth (1986) as *Brachymyia berberina* (Fabricius, 1805); Peck (1988) as *Brachymyia berberina*; Gudjabidze (2002) as *Criorrhina berberiana* (Fallén, 1817) [sic]; Barkalov and Mutin (2018).

New records. GEORGIA • 1♂; L16, 27 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.; • 1♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002769.

Genetics. We sequenced one specimen (MN621926), with BIN BOLD:AAZ5304 (BOLD:AAZ5304). The nearest neighbour in BOLD systems is a specimen of *Criorhina talyshensis* (Stackelberg, 1960) from Azerbaijan (2.6% p-dist).

Distribution. Europe, European parts of Russia, and Transcaucasia.

Criorhina floccosa (Meigen, 1822)

Reference. Peck (1988) as *Brachymyia floccosa* (Meigen, 1822); Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♀; L3, 17 Jun 2018, S. Bot leg.

Distribution. Europe, European parts of Russia, and Transcaucasia.

Criorhina portschinskyi (Stackelberg, 1955)

Reference. Peck (1988); Gudjabidze (2002) as *Criorrhina portshinski* Stackelberg, 1956 [sic]; Barkalov and Mutin (2018).

New records. GEORGIA • 1♂; L16, 27 Jun 2018, S. Bot leg.

Distribution. Transcaucasia and Northern Caucasus.

Criorhina ranunculi (Panzer, 1804)

Reference. Peck (1988).

Distribution. Europe, European parts of Russia, and Transcaucasia.

Dasysyrphus albostriatus (Fallén, 1817)

Reference. Levitin (1962) as *Syrphus albostriatus* Mg. [sic]; Tóth (1986); Gudjabidze (2002) as *Syrphus albostriatus* (Fallén, 1817); Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♀; L1, 16 Jun 2018, S. Bot leg.; • 1♀; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053840 = ZFMK-TIS-8005584; • 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054056 = ZFMK-TIS-8000873; • 1♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054055 = ZFMK-TIS-8000998.

Genetics. We successfully sequenced one specimen (MN621927), with BIN BOLD:AAL1242. This BIN has an average variation of 0.17% (p-distance) within

the BIN (0.48% max) and 2.41% (p-distance) with the nearest neighbour in BOLD systems, *Dasysyrphus eggeri* (Schiner, 1861) (BOLD:AAO9822).

Distribution. Palaearctic.

Dasysyrphus eggeri (Schiner, 1861)

Reference. Peck (1988); Gudjabidze (2002) as *Syrphus eggeri* Schiner, 1860 [sic]; Barkalov and Mutin (2018); Speight (2018a).

Distribution. Palaearctic.

Dasysyrphus friuliensis (Van der Goot, 1960)

New records. GEORGIA • 1♀; L20, 1 Jul 2018, S. Bot leg.

Distribution. Palaearctic.

Remarks. Reported for Georgia for the first time.

Dasysyrphus pinastri (De Geer, 1776)

Reference. Barkalov and Mutin (2018) from Transcaucasia.

New records. GEORGIA • 1♂ 1♀; L18, 28 Jun 2018, S. Bot leg.

Distribution. Palaearctic.

Remarks. The name *pinastri* De Geer, 1776 here is applied *sensu* Locke and Skevington (2013), and it might refer to *Dasysyrphus lunulatus* (Meigen, 1822) of recent European authors (Doczkal 1996a; Speight 2018a).

Dasysyrphus tricinctus (Fallén, 1817)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Syrphus tricinctus* (Fallén, 1817).

New records. GEORGIA • *1; L20, 30 Jun 2018, S. Bot obs.

Distribution. Palaearctic.

Dasysyrphus venustus (Meigen, 1822)

Reference. Tóth (1986) as *Dasysyrphus lunulatus* (Meigen, 1822) and *D. venustus*; Peck (1988) as *D. lunulatus* and as *D. venustus*; Gudjabidze (2002) as *Syrphus lunutatus* Meigen, 1822 [sic] and *Syrphus venustus* Meigen, 1822.

New records. GEORGIA • 2♂ 2♀; L16, 27 Jun 2019, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.

Distribution. Holarctic.

Remarks. Locke and Skevington (2013) explained that the name *lunulatus* Meigen, 1822 has been used for two different taxa: *venustus* Meigen (of authors nec. Meigen) and *pinastri* De Geer (auctt.; Vockeroth 1986). In their work, Locke and Skevington (2013) stated that Vockeroth (1969) used the name *lunulatus* as *pinastri*; however, its correct usage should be as a synonym of *venustus* (Vockeroth 1986). Thus, we follow Locke and Skevington (2013) and consider all the previous citations of *Dasysyrphus lunulatus* as synonyms of *Dasysyrphus venustus*.

Didea fasciata Macquart, 1834

Reference. Levitin (1962) as *Didea fasciata* Mg. [sic]; Tóth (1986); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 2♂; L1, 16 Jun 2018, S. Bot leg.; • 1♂; L3, 17 Jun 2018, S. Bot leg.; • 2♂ 3♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053736, ZFMK-DIP-00053737, ZFMK-DIP-00053739, ZFMK-DIP-00053740, ZFMK-DIP-00054163 = ZFMK-TIS-8000954; • 1♂; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053738 = ZFMK-TIS-8005586; • 1♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053741 = ZFMK-TIS-8005592; • 1♂; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054162.

Genetics. The two sequenced specimens (MN621928, MN621929) differ only 1.67% (p-dist). The BIN for these specimens is BOLD:AAI9912, with an average distance of 0.54% (p-distance) within BIN (2.6% max) and 5.3% (p-distance) with the nearest neighbour in BOLD systems, *Didea intermedia* Loew, 1846 (BOLD:ABW1162).

Distribution. Holarctic and Indomalayan Region (northern India and Taiwan).

Didea intermedia Loew, 1846

Reference. Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂; L4, 18 Jun 2018, S. Bot leg.; • 1♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002702.

Genetics. A single male specimen was sequenced (MN621930), BIN BOLD:ABW1162. This specimen differs 5.93–6.08% (uncorrected pair-wise distance) from the previous specimens of *D. fasciata*.

Distribution. Palaearctic.

Remarks. Stackelberg and Richter (1968) stated that Levitin (1962) recorded this species from Borjomi area. In the original publication, Levitin (1962) did not list this species.

Doros profuges (Harris, 1779)

Reference. Peck (1988) as *Doros conopseus* (Fabricius, 1775).

Distribution. Palaearctic.

Remarks. Thompson et al. (1982) explained the application of the name *Doros profuges* to this taxon.

The year of publication for this species was a convention. The original work by Harris (1776–1780) was published in five 'decads' or parts. Peck (1988) used the conventional date of 1780? with a question mark for decads 3, 4, and 5 based on Lisney (1960). Evenhuis (1997: page 343) established that the decad 3, where *Musca profuges* is described on page 81, was dated as 1779 based on the latest date of the plates. Thus, the year of publication should be 1779.

Epistrophe diaphana (Zetterstedt, 1843)

Reference. Peck (1988); Barkalov and Mutin (2018).

New records. GEORGIA • 1♀; L21, 3 Jul 2018, S. Bot leg.

Distribution. Palaearctic.

Epistrophe eligans (Harris, 1779)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Syrphus bifasciatus* Fallén, 1817 [sic] (= *Syrphus bifasciata* Fabricius, 1794); Speight (2018a).

Distribution. Europe, European parts of Russia, Transcaucasia, and Turkey.

Remarks. The year of publication for this species is a convention. The original work by Harris (1776–1780) was published in five 'decads' or parts. Peck (1988) used the conventional date of 1780? with a question mark for decads 3, 4, and 5 based on Lisney (1960). Evenhuis (1997: page 343) established that the decad 4, where *Musca eligans* is described on page 105, was dated as 1779 based on the latest date of the plates. Thus, the year of publication should be 1779.

Epistrophe flava Doczkal & Schmid, 1994

New records. GEORGIA • 1♂; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057585; • 1♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057586.

Remarks. Reported for Georgia for the first time.

Distribution. Palaearctic.

Epistrophe grossulariae (Meigen, 1822)

Reference. Levitin (1962) as *Syrphus grossulariae* Mg.; Tóth (1986); Peck (1988); Gudjabidze (2002) as *Syrphus grossulariae* .

New records. GEORGIA • 3♂ 1♀; L21, 3 Jul 2018, S. Bot leg.; • 1♂ 1♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053854 = ZFMK-TIS-8005587, ZFMK-DIP-00053995 = ZFMK-TIS-8003453; • 4♂ 1♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057587, ZFMK-DIP-00057588, ZFMK-DIP-00057589, ZFMK-DIP-00057590, ZFMK-DIP-00057591.

Genetics. One specimen was sequenced (MN621931) with BIN BOLD:AAI5313. The obtained COI sequence is very similar (> 99.6%) to other published sequences of this species from Europe. The nearest neighbour in BOLD systems (1.76% p-dist) is another BIN of *E. grossulariae* with specimens only from Canada (BOLD:ABY7460).

Distribution. Holarctic.

Epistrophe leiophthalma (Schiner & Egger, 1853)

Reference. Violovitsh (1979) as *Stackelbergina amicorum* Violovitsh, 1979; Peck (1988); Barkalov and Mutin (2018); Speight (2018a).

Distribution. Europe and Transcaucasia.

Epistrophe nitidicollis (Megerle in Meigen, 1822)

Reference. Gudjabidze (2002) as *Syrphus nitidicollis* Meigen, 1822 [sic].

New records. GEORGIA • 1♂; L2, 16 Jun 2018, S. Bot leg.

Distribution. The geographic range of this species needs reassessment due to the confusion with related species *Epistrophe melanostoma* (Zetterstedt, 1943) and *Epistrophe ochrostoma* (Zetterstedt, 1849) until recently (Doczkal and Schmid 1994).

Epistrophe ochrostoma (Zetterstedt, 1849)

Reference. Peck (1988).

Distribution. The geographic range of this species needs reassessment due to the confusion with related species *Epistrophe melanostoma* (Zetterstedt, 1943) and *Epistrophe nitidicollis* until recently (Doczkal and Schmid 1994).

Epistrophella euchroma (Kowarz, 1885)

Reference. Peck (1988) as *Epistrophe* (*Epistrophella*) *euchroma* (Kowarz, 1885); Speight (2018a) as *Meligramma euchroma* (Kowarz, 1885).

Distribution. Europe, European parts of Russia, Transcaucasia, and into Siberia.

Episyrphus balteatus (De Geer, 1776)

Reference. Levitin (1962) as *Syrphus balteatus* Deg.; Tóth (1986); Gudjabidze (2002) as *Syrphus balteatus* (De Geer, 1776); Barjadze and Gratiashvili (2010).

New records. GEORGIA • 1♂; L1, 15 Jun 2018, S. Bot leg.; • 1♂ 2♀; L1, 16 Jun 2018, S. Bot leg.; • *5; L1, 16 Jun 2018, S. Bot obs.; • 1♀; L7, 19 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • *4; L10, 22 Jun 2018, S. Bot obs.; • *5; L19, 29 Jun 2018, S. Bot obs.; • *4; L21, 1 Jul 2018, S. Bot obs.; • 1♀; L21, 2 Jul 2018, S. Bot leg.; • *1; L22, 3 Jul 2018, S. Bot obs.; • 3♂ 2♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053641, ZFMK-DIP-00054081 = ZFMK-TIS-8000959, ZFMK-DIP-00054084 = ZFMK-TIS-8000967, ZFMK-DIP-00053642, ZFMK-DIP-00053643; • 3♀; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053644 = ZFMK-TIS-8005565, ZFMK-DIP-00053645, ZFMK-DIP-00053646; • 1♀; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053647; • 1♀; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053648; • 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053649; • 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054083; • 1♀; L32, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053650; • 1♂; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053651; • 1♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054082 = ZFMK-TIS-8000997; • 1♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053652; • 1♂; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053653 = ZFMK-TIS-8005573; • 1♀; L45, 25 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057473; • 1♀; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057475; • 1♂; L51, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057471; • 2♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057477, ZFMK-DIP-00057478; • 1♂; L58, 27 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057472, ZFMK-DIP-00057476; • 1♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4527; • 1♂ 5♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002703, ZFMK-TIS-8002704, ZFMK-TIS-8002705, ZFMK-DIP-00061260, ZFMK-DIP-00061262, ZFMK-DIP-00061263; • 5♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4579; • 2♂ 9♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002728, ZFMK-TIS-8002729, ZFMK-TIS-8002730, ZFMK-DIP-00061264, ZFMK-DIP-00061265, ZFMK-DIP-00061266, ZFMK-DIP-00061267, ZFMK-DIP-00061268, ZFMK-DIP-00061269, ZFMK-DIP-00061270, ZFMK-DIP-00061271; • 4♂ 3♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4554, ZFMK-TIS-8002764, ZFMK-TIS-8002765, ZFMK-DIP-00061272, ZFMK-DIP-00061273, ZFMK-DIP-00061274, ZFMK-DIP-00061275.

Genetics. Eight specimens were sequenced (MN621932, MN621933, MN621934, MN621935, MN621936, MN621937, MN621938, MN621939) and their COI barcodes showed little variation (0–0.27%). The BIN is BOLD:AAC6833,

but this BIN has several species besides *E. balteatus*; in other words, the p-dist among different taxa is smaller than among specimens of *E. balteatus*.

Distribution. Palaearctic and Indomalayan Region. The records from the Indomalayan Region need confirmation due to the confusion with other morphologically similar *Episyrphus* species. Speight (2018a) lists this species from Australia, but Wright and Skevington (2013) do not report it in their revision of the Australian species of *Episyrphus*.

Eriozona syrphoides (Fallén, 1817)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♀; L20, 30 Jun 2018, S. Bot leg.

Distribution. Palaearctic.

Eristalinus aeneus (Scopoli, 1763)

Reference. Peck (1988); Gudjabidze (2002) as *Lathyrophthalmus aenus* (Scopoli, 1763).

New records. GEORGIA • 1♀; L60, 26 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058022.

Distribution. Holarctic, Afrotropical region, Indomalayan Region, Hawaii, and Australasian Region.

Eristalinus megacephalus (Rossi, 1794)

Reference. Levitin (1962) as *Lathyrophthalmus quinquelineatus* F.; Peck (1988) as *Eristalinus quinquelineatus* (Fabricius, 1781); Gudjabidze (2002) as *Lathyrophthalmus quinqueliniatus* Fabricius, 1805 [sic]; Khachidze (2013) as field observation. Dirickx (1998) pointed out that European records of *E. quinquelineatus* are erroneous and refer to *E. megacephalus*.

New records. GEORGIA • 1♀; L7, 19 Jun 2018, S. Bot leg.; • 1♂; L11, 23 Jun 2018, S. Bot leg.; • 4♂ 4♀; L59, 28 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058004, ZFMK-DIP-00058005, ZFMK-DIP-00058006, ZFMK-DIP-00058007, ZFMK-DIP-00058008, ZFMK-DIP-00058009, ZFMK-DIP-00058010, ZFMK-DIP-00058011; • 3♂ 5♀; L60, 26 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058017, ZFMK-DIP-00058018, ZFMK-DIP-00058019, ZFMK-DIP-00058012, ZFMK-DIP-00058013, ZFMK-DIP-00058014, ZFMK-DIP-00058015, ZFMK-DIP-00058016; • 2♂; L67, 29 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058020, ZFMK-DIP-00058021.

Distribution. Mediterranean Basin, Turkey, Transcaucasia, and the Afrotropical Region.

Eristalinus sepulchralis (Linnaeus, 1758)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Eristalis sepulchralis* Linnaeus, 1758 [sic] and *Eristalinus sepulclaris* (Linnaeus, 1758) [sic].

New records. GEORGIA • 1♂; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058046; • 1♂ 4♀; L60, 26 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058044, ZFMK-DIP-00058039, ZFMK-DIP-00058040, ZFMK-DIP-00058041, ZFMK-DIP-00058042; • 1♂ 2♀; L67, 29 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058045, ZFMK-DIP-00058038, ZFMK-DIP-00058043.

Distribution. Palaearctic and India.

Eristalinus taeniops (Wiedemann, 1818)

Reference. Peck (1988); Speight (2018a).

New records. GEORGIA • 1♂; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4537.

Distribution. Palaearctic, Indomalayan Region, Afrotropical Region, and South America (introduced).

Eristalis (*Eoseristalis*) *alpina* (Panzer, 1798)

Reference. Levitin (1962) as *Eristalis alpinus* Pz.; Peck (1988); Speight (2018a).

Distribution. Palaearctic.

Remarks. Portschinky (1892) described *Eristalis alpinus* var. *caucasicus* Portschinky, 1892 from the valley of the river Akstafa (also known as Aghstev) in Armenia and Azerbaijan. The taxonomic status of *caucasica* needs re-examination.

Eristalis (*Eoseristalis*) *arbustorum* (Linnaeus, 1758)

Reference. Radde (1899); Levitin (1962); Tóth (1986) as *Eoseristalis arbustorum* (Linnaeus, 1758); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂ 1♀; L10, 22 Jun 2018, S. Bot leg.; • 2♀; L11, 23 Jun 2018, S. Bot leg.; • 1♂ 1♀; L11, 29 Jun 2018, S. Bot leg.; • 1♀; L15, 26 Jun 2018, S. Bot leg.; • 1♂ 1♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053712 = ZFMK-TIS-8005552, ZFMK-DIP-00053720; • 1♂; L26, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054178; • 3♂ 3♀; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053713, ZFMK-DIP-00053714, ZFMK-DIP-00053715, ZFMK-DIP-00053721, ZFMK-DIP-00053722, ZFMK-DIP-00054180 = ZFMK-TIS-8000975; • 1♀; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053716; • 1♂ 6♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054183, ZFMK-DIP-00053718

= ZFMK-TIS-8005560, ZFMK-DIP-00053719, ZFMK-DIP-00054177, ZFMK-DIP-00054182, ZFMK-DIP-00054184, ZFMK-DIP-00054185; • 1♂; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4524; • 3♂ 1♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053709, ZFMK-DIP-00053710, ZFMK-DIP-00053711, ZFMK-DIP-00053723; • 1♀; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053724; • 1♂ 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053707, ZFMK-DIP-00053717; • 2♀; L37, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054179 = ZFMK-TIS-8004100, ZFMK-DIP-00054181 = ZFMK-TIS-8004106; • 2♂; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053708, ZFMK-DIP-00053706; • 1♀; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4542; • 1♂ 1♀; L46, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058037, ZFMK-DIP-00058027; • 1♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058035, ZFMK-DIP-00058036; • 3♂ 1♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058032, ZFMK-DIP-00058033, ZFMK-DIP-00058034, ZFMK-DIP-00058024; • 2♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058025, ZFMK-DIP-00058026; • 3♂ 1♀; L59, 28 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058029, ZFMK-DIP-00058030, ZFMK-DIP-00058031, ZFMK-DIP-00058028; • 2♂; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4498, ZFMK-TIS-8002662; • 1♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002683.

Genetics. We sequenced six specimens (MN621940, MN621941, MN621942, MN621943, MN621944, MN621945) with BIN BOLD:ADK2468. The uncorrected pairwise distance among them was very low (0–0.16%). This BIN also has some specimens of the Nearctic species *Eristalis brousii* Williston, 1882. The nearest neighbour in BOLD systems is the Palaearctic species *Eristalis abusiva* Collin, 1931 (BOLD:ADK2468, 1.97% p-dist).

Distribution. Holarctic and northern India.

Eristalis (*Eoseristalis*) *horticola* (De Geer, 1776)

Reference. Peck (1988); Gudjabidze (2002).

Distribution. Palaearctic and India.

Eristalis (*Eoseristalis*) *intricaria* (Linnaeus, 1758)

Reference. Peck (1988); Gudjabidze (2002) as *Eristalis intrikarius* Linnaeus, 1758 [sic].

Distribution. Europe, European parts of Russia, Transcaucasia, into Siberia.

Eristalis (*Eoseristalis*) *jugorum* Egger, 1858

Reference. Peck (1988); Gudjabidze (2002); Speight (2018a).

Distribution. Europe, European parts of Russia, Transcaucasia, Turkey, and Iran.

Eristalis (*Eoseristalis*) *nemorum* (Linnaeus, 1758)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002).

Distribution. Holarctic.

Eristalis (*Eoseristalis*) *pertinax* (Scopoli, 1763)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002) as *Eristalis pertinax* Scopoli, 1763 [sic].

New records. GEORGIA • 1♂; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L11, 23 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.; • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 1♂; L21, 2 Jul 2018, S. Bot leg.; • 6♂ 1♀; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053728, ZFMK-DIP-00053729, ZFMK-DIP-00053730, ZFMK-DIP-00053731, ZFMK-DIP-00053732, ZFMK-DIP-00054176 = ZFMK-TIS-8000973, ZFMK-DIP-00053727; • 1♂; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053733 = ZFMK-TIS-8005553; • 1♂; L30, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053725; • 2♂; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053726 = ZFMK-TIS-8005561, ZFMK-DIP-00053992 = ZFMK-TIS-8003422; • 2♂; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4534; • 1♀; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4540; • 1♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057986.

Genetics. One specimen was sequenced (MN621946), with BIN BOLD:AAQ3585 (average p-dist 0.17%; max p-dist 1.41%). The nearest neighbour in BOLD systems is *Eristalis obscura* Loew, 1866 (BOLD:AAA6459, 5.53% p-dist).

Distribution. Europe, European parts of Russia, Transcaucasia, and Turkey.

Eristalis (*Eoseristalis*) *rupium* Fabricius, 1805

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002) as *E. rapium* Fabricius, 1777 [sic].

Distribution. Holarctic.

Eristalis (*Eoseristalis*) *similis* (Fallén, 1817)

Reference. Tóth (1986) as *Eoseristalis pratorum* Meigen, 1822; Peck (1988) as *Eristalis pratorum* Meigen, 1822; Gudjabidze (2002) as *Eristalis pratorum*.

New records. GEORGIA • 1♀; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053735 = ZFMK-TIS-8005562; • 1♂; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053734 = ZFMK-TIS-8005554; • 1♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053993 = ZFMK-TIS-8003429; • 1♂; L42, 25 Jul 2018, A.

Reimann leg.; MTD-Dip-A-R-4541; • 1♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002684.

Genetics. Four specimens were successfully sequenced (MN621947, MN621948, MN621949, MN621950); BIN BOLD:AAY9892. The similarity among these sequences was very high (99.85–100%). The nearest neighbour in BOLD systems is *Eristalis obscura* Loew, 1866 (BOLD:AAA6459, 6.39% p-dist).

Distribution. Palaearctic.

Remarks. Nielsen (1995) synonymised *Eristalis pratorum* Megerle in Meigen, 1822 under *E. similis*.

Eristalis (*Eoseristalis*) *transcaucasica* Kuznetzov, 1994

Reference. Kuznetzov (1994).

Distribution. Northern Caucasus and Transcaucasia.

Eristalis (*Eristalis*) *tenax* (Linnaeus, 1758)

Reference. Radde (1899); Levitin (1962) as *Eristalomyia tenax* L.; Tóth (1986); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • *1; L1, 16 Jun 2018, S. Bot obs.; • 1♂; L2, 16 Jun 2018, S. Bot leg.; • 2♂ 1♀; L3, 17 Jun 2018, S. Bot leg.; • *200; L4, 18 Jun 2018, S. Bot obs.; • *50; L8, 20 Jun 2018, S. Bot obs.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • *50; L10, 22 Jun 2018, S. Bot obs.; • *10; L11, 23 Jun 2018, S. Bot obs.; • 1♀; L11, 23 Jun 2018, S. Bot leg.; • 1♀; L11, 29 Jun 2018, S. Bot leg.; • *5; L12, 24 Jun 2018, S. Bot obs.; • *20; L19, 29 Jun 2018, S. Bot obs.; • *10; L21, 1 Jul 2018, S. Bot obs.; • *5; L22, 3 Jul 2018, S. Bot obs.; • 5♂ 3♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053685, ZFMK-DIP-00053686, ZFMK-DIP-00053687, ZFMK-DIP-00053688, ZFMK-DIP-00054172 = ZFMK-TIS-8000971, ZFMK-DIP-00053684, ZFMK-DIP-00053689, ZFMK-DIP-00054165 = ZFMK-TIS-8000960; • 3♀; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053690, ZFMK-DIP-00053981 = ZFMK-TIS-8003446, ZFMK-DIP-00053984 = ZFMK-TIS-8003445; • 3♀; L26, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053691 = ZFMK-TIS-8005551, ZFMK-DIP-00053986 = ZFMK-TIS-8003439, ZFMK-DIP-00053989 = ZFMK-TIS-8003438; • 5♂ 2♀; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053692, ZFMK-DIP-00053693, ZFMK-DIP-00053694, ZFMK-DIP-00054164 = ZFMK-TIS-8000974, ZFMK-DIP-00054175 = ZFMK-TIS-8000980, ZFMK-DIP-00053697, ZFMK-DIP-00054174 = ZFMK-TIS-8000977; • 1♀; L30, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053696; • 2♂ 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053698, ZFMK-DIP-00053985 = ZFMK-TIS-8003443, ZFMK-DIP-00053980 = ZFMK-TIS-8003441; • 1♂; L31, 23 Jul 2018, A. Reimann leg.; ZFMK-TIS-8002670; •

1♂ 3♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4508; • 3♂ 6♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053699, ZFMK-DIP-00053982 = ZFMK-TIS-8003433, ZFMK-DIP-00053991 = ZFMK-TIS-8003432, ZFMK-DIP-00053695, ZFMK-DIP-00053700, ZFMK-DIP-00053983 = ZFMK-TIS-8003436, ZFMK-DIP-00053987 = ZFMK-TIS-8003428, ZFMK-DIP-00053988 = ZFMK-TIS-8003431, ZFMK-DIP-00053990 = ZFMK-TIS-8003430; • 1♀; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053701; • 1♂; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053702; • 1♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053703; • 4♂; L37, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054168 = ZFMK-TIS-8004107, ZFMK-DIP-00054170 = ZFMK-TIS-8004105, ZFMK-DIP-00054171 = ZFMK-TIS-8004104, ZFMK-DIP-00054173 = ZFMK-TIS-8004096; • 1♂; L37, 25 Jul 2018, J. Thormann leg.; ZFMK-DIP-00054167 = ZFMK-TIS-8004080; • 1♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053704; • 1♂ 1♀; L38, 25 Jul 2018, J. Thormann leg.; ZFMK-DIP-00054169 = ZFMK-TIS-8004029, ZFMK-DIP-00054166 = ZFMK-TIS-8004027; • 1♂; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053705 = ZFMK-TIS-8005559; • 2♂ 1♀; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4539; • 1♂; L44, 18 Jul 2018, J. Astrin leg.; ZFMK-TIS-8000055; • 1♂; L46, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057989; • 1♂; L51, 24 Jul 2001 J.-H. Stuke leg.; ZFMK-DIP-00057990; • 1♂; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057992; • 1♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057993; • 1♂; L58 27 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057991; • 2♂; L64 23 Jul 2001 J.-H. Stuke leg.; ZFMK-DIP-00057987, ZFMK-DIP-00057988; • 1♂ 2♀; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4496; • 1♀; L69, 18 Jul 2018, A. Reimann leg.; ZFMK-TIS-8002660; • 4♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002679, ZFMK-TIS-8002680, ZFMK-DIP-00061276, ZFMK-DIP-00061277; • 3♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4571; • 4♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002681, ZFMK-TIS-8002682, ZFMK-DIP-00061278, ZFMK-DIP-00061279; • 3♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4572; • 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002733.

Genetics. Nine specimens were sequenced (MN621951, MN621952, MN621953, MN621954, MN621955, MN621956, MN621957, MN621958, MN621959), with BIN BOLD:AAB0391. The obtained sequences varied little (0–0.76%), and the nearest neighbour in BOLD systems is *Eristalis obscura* Loew, 1866 (4.19% p-dist).

Distribution. Almost cosmopolitan, known from all regions except the Antarctica.

Eumerus amoenus Loew, 1848

Reference. Peck (1988); Speight (2018a).

New records. GEORGIA • 2♀; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054120 = ZFMK-TIS-8000882; ZFMK-DIP-00054122 = ZFMK-TIS-8000883.

Genetics. We sequenced two specimens (MN621960, MN621961), which show an uncorrected pairwise distance of 0.46%. In BOLD systems there are two BINs with specimens identified as *E. amoenus* BOLD:ACO7316 and BOLD:AAY8911.

Distribution. Central and Southern Europe, Transcaucasia, Central Palaearctic to Mongolia.

Eumerus argyropus Loew, 1848

Reference. Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018); Speight (2018a).

Distribution. Mediterranean Europe, Turkey, Bulgaria, Romania, Ukraine, and Transcaucasia.

Eumerus armenorum Stackelberg, 1960

Reference. Peck (1988) listed it only from Armenia; Barkalov and Mutin (2018) listed it from Transcaucasia.

Remarks. There is not a specific record from Georgia.

Distribution. Described from Armenia.

Eumerus caucasicus Stackelberg, 1952

Reference. Stackelberg (1952); Stackelberg (1961); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 5♂ 3♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058236, ZFMK-DIP-00058237, ZFMK-DIP-00058238, ZFMK-DIP-00058239, ZFMK-DIP-00058240, ZFMK-DIP-00058241, ZFMK-DIP-00058242, ZFMK-DIP-00058243.

Distribution. Georgia.

Remarks. This species was described based on a single male. We did not study the holotype, but our specimens fit the original description and key out to this species using the identification key by Stackelberg (1961). The females are identified as *E. caucasicus* based on the sampling event, plus we could not key them our properly using Stackelberg (1961). The studied specimens are the first records for this species since its original description. Moreover, this is the first report of a female of this species.

Eumerus clavatus Becker, 1921

Reference. Gudjabidze (2002); Speight (2018a).

Distribution. Europe, Transcaucasia, and North Africa.

Eumerus falsus Becker, 1922

Reference. Peck (1988).

Distribution. Transcaucasia, Turkey, Israel, Iran, and Central Palaearctic.

Eumerus flavitarsis Zetterstedt, 1843

Reference. Tóth (1986); Peck (1988).

New records. GEORGIA • 1♀; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054125 = ZFMK-TIS-8000884; • 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002790.

Genetics. We sequenced two specimens (MN621962, MN621963) and their COI sequences have an uncorrected pairwise distance of 0.15%. The BIN for these specimens is BOLD:AAQ1830.

Distribution. Palaearctic.

Eumerus funeralis Megerle in Meigen, 1822

Reference. Stackelberg (1961) from Caucasus as *Eumerus tuberculatus* Rondani, 1857; Peck (1988) as *E. tuberculatus*.

Distribution. Palaearctic; but introduced in North and South America, Australia, and New Zealand.

Remarks. Speight et al. (1998) reinstated the name *E. funeralis* for the taxon previously known as *E. tuberculatus* in recent literature.

Eumerus graecus Becker, 1921

Reference. Peck (1988); Speight (2018a).

Distribution. Malta, Bulgaria, Greece, Turkey, and Transcaucasia.

Eumerus grandis Meigen, 1822

Reference. Stackelberg (1961) from Armenia as *Eumerus annulatus* (Panzer, 1798); Peck (1988) from Armenia; Speight (2018a) from Armenia.

New records. GEORGIA • 1♂; L65, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058235.

Distribution. Europe, Transcaucasia, and known from Mongolia and China.

Remarks. Reported for Georgia for the first time.

Eumerus longicornis Loew, 1855

Reference. Peck (1988); Speight (2018a).

Distribution. Central Europe and Transcaucasia.

Remarks: Records from the Caucasus require confirmation after Doczkal (1996b) (Speight (2018a).

Eumerus niveitibia Becker, 1921

Reference. Peck (1988); Speight (2018a).

Distribution. Bulgaria, Greece, Egypt, and Caucasus Mountains.

Eumerus ornatus Meigen, 1822

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018).

New records. GEORGIA • 1♀; L2, 16 Jun 2018, S. Bot leg.

Distribution. Western Palaearctic.

Eumerus ovatus Loew, 1848

Reference. Gudjabidze (2002); Speight (2018a).

Distribution. Southern and Eastern Europe and Caucasus Mountains.

Eumerus sogdianus Stackelberg, 1952

Reference. Stackelberg (1952); Stackelberg (1961) from Transcaucasia; Peck (1988) from Georgia; Gudjabidze (2002) as *Eumerus sogdianus* Shtakleberg, 1956 [sic]; Barkalov and Mutin (2018).

Distribution. Palaearctic.

Eumerus strigatus (Fallén, 1817)

Reference. Gudjabidze (2002) as *Eumerus strigatus* (Fallen, 1917) [sic].

Distribution. Palaearctic; introduced in North America, Australia, and New Zealand.

Eumerus sulcitibius Rondani, 1868

Reference. Peck (1988) listed it only from Azerbaijan; Barkalov and Mutin (2018) listed it from Transcaucasia.

New records. GEORGIA • 9♂; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054114, ZFMK-DIP-00054115 = ZFMK-TIS-8000881, ZFMK-DIP-00054116, ZFMK-DIP-00054117, ZFMK-DIP-00054118, ZFMK-DIP-00054119, ZFMK-DIP-00054121, ZFMK-DIP-00054123, ZFMK-DIP-00054124.

Genetics. We were able to sequence one specimen (MN621964), and its COI barcode sequence has 99.83% similarity with another COI barcode of a specimen of *E. sulcitibius* from Greece (KX083387). The BIN for these specimens is BOLD:ADW8728.

Distribution. Mediterranean Basin, Turkey to Azerbaijan.

Remarks. Reported for Georgia for the first time.

Eumerus tricolor (Fabricius, 1798)

Reference. Stackelberg (1961) from Transcaucasia; Peck (1988) from Armenia; Gudjabidze (2002) as *Eumerus tricolor* Meigen, 1822 [sic]; Barkalov and Mutin (2018).

Distribution. Palaearctic.

Eumerus turanicus Stackelberg, 1952

New records. GEORGIA • 1♂; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054126 = ZFMK-TIS-8000880.

Genetics. We sequenced the single collected male (MN621965), whose COI barcode has a similarity of 94.65% with *E. amoenus*. This species was not previously registered in BOLD systems.

Distribution. Kyrgyzstan and Tajikistan.

Remarks. Reported for Georgia for the first time.

Eupeodes (*Eupeodes*) *bucculatus* (Rondani, 1857)

New records. GEORGIA • 1♀; L3, 17 Jun 2018, S. Bot leg.

Distribution. Europe.
Remarks. Reported for Georgia for the first time.

Eupeodes (*Eupeodes*) *corollae* (Fabricius, 1794)

Reference. Levitin (1962) as *Syrphus corollae* F.; Tóth (1986) as *Metasyrphus corollae* (Fabricius, 1794); Gudjabidze (2002) as *Syrphus corollae* (Fallen, 1817) [sic].

New records. GEORGIA • 1♂; L2, 16 Jun 2018, S. Bot leg.; • 1♂; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L8, 20 Jun 2018, S. Bot leg.; • 2♂; L10, 22 Jun 2018, S. Bot leg.; • 2♀; L11, 23 Jun 2018, S. Bot leg.; • 1♀; L12, 24 Jun 2018, S. Bot leg.; • 1♀; L20, 30 Jun 2018, S. Bot leg.; • 1♂ 1♀; L20, 2 Jul 2018, S. Bot leg.; • 1♂; L27, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053850 = ZFMK-TIS-8005593; • 2♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054096 = ZFMK-TIS-8000875, ZFMK-DIP-00054097 = ZFMK-TIS-8000876; • 1♀; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057498; • 1♂ 1♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057491, ZFMK-DIP-00057495; • 2♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057496, ZFMK-DIP-00057497; • 2♂ 3♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057490, ZFMK-DIP-00057492, ZFMK-DIP-00057493, ZFMK-DIP-00057494, ZFMK-DIP-00057499;• 1♀; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4502; • 6♂ 11♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002713, ZFMK-TIS-8002714, ZFMK-TIS-8002715, ZFMK-TIS-8002716, ZFMK-DIP-00061280, ZFMK-DIP-00061281, ZFMK-DIP-00061282, ZFMK-DIP-00061283, ZFMK-DIP-00061284, ZFMK-DIP-00061285, ZFMK-DIP-00061286, ZFMK-DIP-00061287, ZFMK-DIP-00061288, ZFMK-DIP-00061289, ZFMK-DIP-00061290, ZFMK-DIP-00061291, ZFMK-DIP-00061292; • 2♂ 10♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4570, MTD-Dip-A-R-4578; • 5♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002738, ZFMK-TIS-8002739, ZFMK-DIP-00061293, ZFMK-DIP-00061294, ZFMK-DIP-00061295; • 1♂ 3♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4568.

Genetics. We sequenced seven specimens (MN621966, MN621967, MN621968, MN621969, MN621970, MN621971, MN621972). The obtained sequences differ from 0 to 2.06% among them. The BIN for this species has a problem in BOLD systems and refers to a hemipteran species.

Distribution. Palaearctic, Afrotropical Region, and Taiwan.

Eupeodes (*Eupeodes*) *flaviceps* (Rondani, 1857)

Reference. Peck (1988); Gudjabidze (2002) as *Syrphus braueri* Egger, 1858; Speight (2018a).

Distribution. Europe and Transcaucasia.

Eupeodes (*Eupeodes*) *goeldlini* Mazánek, Láska & Bičík, 1999

New records. GEORGIA • 1♂; L21, 2 Jul 2018, S. Bot leg.; • 4♂; L51, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057506, ZFMK-DIP-00057507, ZFMK-DIP-00057507, ZFMK-DIP-00057506.

Distribution. Europe and European parts of Russia.

Remarks. Reported for Georgia for the first time.

Eupeodes (*Eupeodes*) *latifasciatus* (Macquart, 1829)

Reference. Levitin (1962) as *Syrphus latifasciatus* Macq.; Tóth (1986) as *Metasyrphus latifasciatus* (Macquart, 1829); Gudjabidze (2002) as *Syrphus latifasciatus* Macquart, 1827 [sic].

New records. GEORGIA • *1♂; L9, 21 Jun 2018, S. Bot obs.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♂; L17, 28 Jun 2018, S. Bot leg.; • 2♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057595, ZFMK-DIP-00057596; • 1♂ 3♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057594, ZFMK-DIP-00057597, ZFMK-DIP-00057598, ZFMK-DIP-00057599; • 2♂; L64, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057592, ZFMK-DIP-00057593.

Distribution. Holarctic and India.

Eupeodes (*Eupeodes*) *luniger* (Meigen, 1822)

Reference. Levitin (1962) as *Syrphus luniger* Mg.; Tóth (1986) as *Metasyrphus luniger* (Meigen, 1822); Gudjabidze (2002) as *Syrphus luniger* Meigen, 1822.

New records. GEORGIA • 1♀; L11, 29 Jun 2018, S. Bot leg.; • 1♀; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053851 = ZFMK-TIS-8005594; • 1♀; L54, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057502; • 1♀; L55, 31 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057503; • 1♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057504.

Genetics. One specimen was sequenced (MN621973), with identical COI sequence to other published specimens of the same species (MF446537 from Germany; KF939552 and KF939551 from Spain). In BOLD systems, the BIN for *E. luniger* (BOLD:AAB2384) comprises specimens identified as different species of the same genus.

Distribution. Palaearctic and northern India.

Eupeodes (*Eupeodes*) *nitens* (Zetterstedt, 1843)

Reference. Gudjabidze (2002) as *Syrphus nitens* Zetterstendt, 1843 [sic].

Distribution. Palaearctic.

Eupeodes (*Eupeodes*) *nuba* (Wiedemann, 1830)

Reference. Peck (1988) as *Metasyrphus* (*Metasyrphus*) *nuba* (Wiedemann, 1830); Barkalov and Mutin (2018).

New records. GEORGIA • 1♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057505.

Distribution. Canary Isles, Europe, Transcaucasia, Central Palaearctic to Mongolia.

Fagisyrphus cinctus (Fallén, 1817)

Reference. Levitin (1962) as *Syrphus cinctus* Flln.; Tóth (1986) as *Meligramma cinctus* Fallén, 1817; Peck (1988) as *Melangyna* (*Meligramma*) *cincta* (Fallén, 1817); Gudjabidze (2002) as *Syrphus cinctus* Fallén, 1817.

New records. GEORGIA • 1♂; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4528; • 1♂; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054099 = ZFMK-TIS-8001001; • 1♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002712.

Genetics. We sequenced two specimens (MN621974, MN621975) which have exactly the same COI barcode. The Barcode Index Number Registry lists one BIN for this taxon (BOLD:AAQ4086) with an average variation of p-distance of 0.05% within the BIN (0.58% max) and 6.05% p-distance to the nearest neighbour, *Meligramma triangulifera* (Zetterstedt, 1843) (BOLD:AAZ1912).

Distribution. Europe, European parts of Russia, and Crimea.

Ferdinandea aurea Rondani, 1844

Reference. Peck (1988); Gudjabidze (2002) as *Ferdinandea aurea* Rondani, 1861 [sic].

Distribution. Southern Europe and Transcaucasia.

Ferdinandea cuprea (Scopoli, 1763)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002).

Distribution. Palaearctic.

Ferdinandea ruficornis (Fabricius, 1775)

Reference. Peck (1988); Speight (2018a).

Distribution. Palaearctic.

Hammerschmidtia ferruginea (Fallén, 1817)

Reference. Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 3♂; L8, 20 Jun 2018, S. Bot leg.

Distribution. Palaearctic, Western Coast of North America, and Alaska.

Helophilus continuus Loew, 1854

Reference. Peck (1988); Gudjabidze (2002) as *Helophilus continuus* Loew, 1846 [sic]; Speight (2018a).

New records. GEORGIA • 1♂; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053802 = ZFMK-TIS-8005572; • 1♀; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054000 = ZFMK-TIS-8003448; • 1♂; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054208; • 2♂ 2♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053804, ZFMK-DIP-00053807, , ZFMK-DIP-00053999 = ZFMK-TIS-8003437, ZFMK-DIP-00054013; • 4♂ 1♀; L33, 23 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053801, ZFMK-DIP-00053805, ZFMK-DIP-00053806, ZFMK-DIP-00053809 = ZFMK-TIS-8005579, ZFMK-DIP-00054012 = ZFMK-TIS-8000983; • 1♀; L37, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054010 = ZFMK-TIS-8004108; • 1♀; L38, 25 Jul 2018, J. Thormann leg.; ZFMK-DIP-00054011 = ZFMK-TIS-8004028; • 1♂; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053803.

Genetics. We sequenced two specimens (MN621976, MN621977), whose COI barcodes differ 0.15%. One sequence (MN621977) matches another sequence present in BOLD from Altai Mountains, Russia. The BIN for all these specimens is BOLD:ACO6169 and the nearest neighbour in BOLD systems is *Helophilus lapponicus* Wahlberg, 1844 (BOLD:ACE4226).

Distribution. Eastern Europe, Transcaucasia, and through Russia to Kamchatka.

Helophilus pendulus (Linnaeus, 1758)

Reference. Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂L4, 18 Jun 2018, S. Bot leg.; • *1♂; L21, 1 Jul 2018, S. Bot obs.; • 1♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053793 = ZFMK-TIS-8005570.

Genetics. We sequenced one specimen (MN621978) and its COI barcode has 100% similarity with other published sequences of this species. The Barcode Index Number Registry lists 1 BIN for this taxon (BOLD:AAI6747) with an average p-distance of 0.25% within BIN (1.65% max.) and a p-distance of 1.96% to the nearest neighbour in BOLD systems, *Helophilus sapporensis* Matsumura, 1911 (BOLD:ACO5411).

Distribution. Palaearctic.

Helophilus trivittatus (Fabricius, 1805)

Reference. Radde (1899); Peck (1988) as *Helophilus parallelus* (Harris, 1776); Gudjabidze (2002) as *Helophilus trivitatus* (Fabricius, 1777) [sic].

New records. GEORGIA • 1♀; L8, 20 Jun 2018, S. Bot leg.; • 2♂ 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053794 = ZFMK-TIS-8005571, ZFMK-DIP-00054003 = ZFMK-TIS-8003442, ZFMK-DIP-00054002 = ZFMK-TIS-8003444; • 1♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4510; • 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053800; • 1♂ 2♀; L37, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054009 = ZFMK-TIS-8004099, ZFMK-DIP-00054006 = ZFMK-TIS-8004113, ZFMK-DIP-00054007 = ZFMK-TIS-8004098; • 3♂ 4♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053795, ZFMK-DIP-00053796, ZFMK-DIP-00054004 = ZFMK-TIS-8003425, ZFMK-DIP-00054001 = ZFMK-TIS-8003424, ZFMK-DIP-00053797, ZFMK-DIP-00053798, ZFMK-DIP-00053799 = ZFMK-TIS-8005578; • 2♀; L38, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054005 = ZFMK-TIS-8004228, ZFMK-DIP-00054008 = ZFMK-TIS-8004230; • 1♀; L60, 26 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057999; • 1♂; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4497 = ZFMK-TIS-8002661.

Genetics. We sequenced three specimens (MN621979, MN621980, MN621981) and the COI barcodes were very similar (0–0.53% p-distance difference). The BIN for these specimens is BOLD:ABY6684.

Distribution. Palaearctic.

Remarks. Van der Goot (1981) used *Helophilus trivittatus* for the taxon also known as *Helophilus parallelus*. Later, Van der Goot (1986) explained that the name *Helophilus parallelus* was wrongly applied to the taxon *Helophilus trivittatus*.

Heringia heringi (Zetterstedt, 1843)

Reference. Peck (1988).

Distribution. Palaearctic.

Heringia senilis Sack, 1938

Reference. Tóth (1986); Peck (1988).

Remarks. Specimens of this taxon are often identified as *Heringia heringi* due to the lack of diagnosable differences (Claußen et al. 1994).

Ischiodon scutellaris (Fabricius, 1805)

Reference. Peck (1988); Gudjabidze (2002) as *Ischiodon scutellare* Fabricius, 1794 [sic]; Mengual (2018).

Distribution. Greece, eastwards to Caucasus, Kazakhstan, Iran, Arabian Peninsula south to Indomalayan Region, Taiwan, Australasian and Oceanian regions except Hawaii, China, and Japan.

Lapposyrphus lapponicus (Zetterstedt, 1838)

Reference. Levitin (1962) as *Syrphus eapponicus* Zett. [sic]; Tóth (1986); Peck (1988) as *Metasyrphus* (*Lapposyrphus*) *lapponicus* (Zetterstedt, 1838); Gudjabidze (2002) as *Syrphus lapponicus* Zetterstendt, 1843 [sic].

New records. GEORGIA • 1♂ 1♀; L2, 16 Jun 2018, S. Bot leg.; • 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L4, 18 Jun 2018, S. Bot leg.; • 1♀; L6, 19 Jun 2018, S. Bot leg.; • 1♂; L8, 20 Jun 2018, S. Bot leg.; • 1♂; L16, 27 Jun 2018, S. Bot leg.; • 1♂; L17, 28 Jun 2018, S. Bot leg.; • 1♂; L19, 29 Jun 2018, S. Bot leg.

Distribution. Palaearctic, also mentioned from Alaska to California.

Lejogaster metallina (Fabricius, 1781)

Reference. Peck (1988); Gudjabidze (2002) as *Liogaster metallina* Fabricius, 1777 [sic].

New records. GEORGIA • 1♂; L1, 16 Jun 2018, S. Bot leg.; • 10♂ 5♀; L46, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057936, ZFMK-DIP-00057937, ZFMK-DIP-00057938, ZFMK-DIP-00057939, ZFMK-DIP-00057940, ZFMK-DIP-00057941, ZFMK-DIP-00057942, ZFMK-DIP-00057943, ZFMK-DIP-00057944, ZFMK-DIP-00057949, ZFMK-DIP-00057945, ZFMK-DIP-00057946, ZFMK-DIP-00057947, ZFMK-DIP-00057948, ZFMK-DIP-00057950; • 1♀; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057952; • 9♂ 6♀; L50, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057953, ZFMK-DIP-00057954, ZFMK-DIP-00057955, ZFMK-DIP-00057956, ZFMK-DIP-00057957, ZFMK-DIP-00057958, ZFMK-DIP-00057959, ZFMK-DIP-00057960, ZFMK-DIP-00057961, ZFMK-DIP-00057962, ZFMK-DIP-00057963, ZFMK-DIP-00057964, ZFMK-DIP-00057965, ZFMK-DIP-00057966, ZFMK-DIP-00057967; • 1♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057951.

Distribution. Palaeartic.

Lejogaster tarsata (Megerle in Meigen, 1822)

Reference. Peck (1988) as *Lejogaster splendida* (Meigen, 1822); Gudjabidze (2002) as *Liogaster splendida* Meigen, 1822 [sic].

New records. GEORGIA • 3♂ 1♀; L63, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057968, ZFMK-DIP-00057969, ZFMK-DIP-00057970, ZFMK-DIP-00057971.

Distribution. Palaeartic.

Remarks. Maibach et al. (1994b) reinstated the name *Lejogaster tarsata* (Megerle in Meigen, 1822) for the taxon referred as *Lejogaster splendida* (Megerle in Meigen, 1822) in recent literature.

Leucozona (*Ischyrosyrphus*) *glaucia* (Linnaeus, 1758)

Reference. Gudjabidze (2002) as *Ischyrosyrphus glaucius* Linnaeus, 1758 [sic].

New records. GEORGIA • 1♂; L16, 27 Jun 2018, S. Bot leg.; 1♀; • L20, 30 Jun 2018, S. Bot leg.

Distribution. Palaearctic.

Leucozona (*Ischyrosyrphus*) *laternaria* (Müller, 1776)

Reference. Gudjabidze (2002) as *Ischyrosyrphus laternarius* Muller.

Distribution. Palaearctic.

Leucozona (*Leucozona*) *lucorum* (Linnaeus, 1758)

Remarks. Since the morphological characters, which help to distinguish between *L. lucorum* and *L. nigripila*, have only recently been clarified by Doczkal (2000b), it is unclear whether *L. lucorum* occurs in sympatry with *L. nigripila* in the Caucasus or whether all records should refer to *L. nigripila*.

Leucozona (*Leucozona*) *nigripila* Mik, 1888

Reference. Tóth (1986) as *Leucozona lucorum* Linnaeus, 1758 [sic]; Peck (1988) as *Leucozona lucorum* (Linnaeus, 1758); Gudjabidze (2002) as *Leucozona lucorom* (Linnaeus, 1758) [sic].

New records. GEORGIA • 1♂; L6, 19 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.; • 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054014 = ZFMK-TIS-8000861; • 2♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057500, ZFMK-DIP-00057501.

Genetics. We were able to sequence one specimen (MN621982). The obtained COI barcode has a similiraty of > 99.4% with published sequences of *L. lucorum*. The BIN in BOLD systems comprising *L. nigripila* is BOLD:AAK9203, which also has specimens of *Leucozona inopinata* Doczkal, 2000 and *L. lucorum* (average distance within BIN of 0.5%, and 0.19% of maximum distance). The nearest neighbour in BOLD systems is *Leucozona americana* Curran, 1923 (BOLD:ACE4604; 1.26% p-distance).

Distribution. Northern Caucasus and Transcaucasia.

Remarks. Here we have listed under *L. nigripila* all the previous records of *L. lucorum*. Since the morphological characters, which help to distinguish between *L. lucorum* and *L. nigripila*, have only recently been clarified by Doczkal (2000b), it is unclear if *L. lucorum* occurs in sympatry with *L. nigripila* in the Caucasus, but it is very unlikely. This species was described from Northern Caucasus (Circassia) and Doczkal (2000b) reported it from there and from Kussari (= Qusar, Azerbaijan). The specimen from Kussari is very likely to be the female that Mik (1888) mentioned from the Caucasus. Reported for Georgia for the first time.

Mallota fuciformis (Fabricius, 1794)

Reference. Peck (1988).

Distribution. Central and Southern Europe, European parts of Russia, Transcaucasia, and Iran.

Megasyrphus erraticus (Linnaeus, 1758)

Reference. Peck (1988) as *Megasyrphus annulipes* (Zetterstedt, 1838); Gudjabidze (2002) as *Syrphus annulipes* (Zetterstedt, 1838).

Distribution. Palaearctic, including Nepal.

Remarks. Thompson et al. (1982) synonymised *Scaeva annulipes* Zetterstedt, 1838 under *Musca erratica* Linnaeus, 1758.

Melangyna (*Melangyna*) *compositarum* (Verrall, 1873)

Reference. Peck (1988); Gudjabidze (2002) as *Syrphus compositarum* Verall [sic].

Distribution. Holarctic.

Melangyna (*Melangyna*) *lasiophthalma* (Zetterstedt, 1843)

Reference. Peck (1988); Gudjabidze (2002) as *Syrphus lasiophthalmus* Zetterstend, 1843 [sic].

Distribution. Holarctic.

Melangyna (*Melangyna*) *umbellatarum* (Fabricius, 1794)

Reference. Peck (1988); Gudjabidze (2002) as *Syrphus umbellatarum* (Fallen, 1817) [sic].

New records. GEORGIA • 2♂; L16, 27 Jun 2018, S. Bot leg.; • 1♂; L17, 28 Jun 2018, S. Bot leg.

Distribution. Holarctic.

Melanogaster nuda (Macquart, 1829)

Reference. Peck (1988) as *Chrysogaster viduata* (Linnaeus, 1758); Gudjabidze (2002) as *Chrysogaster viduata* Linnaeus, 1758 [sic].

New records. GEORGIA • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 2♂; L11, 23 Jun 2018, S. Bot leg.; • 2♀; L11, 29 Jun 2018, S. Bot leg.

Distribution. Western Palaearctic.

Remarks. While fixing the name *Musca viduata* Linnaeus, 1758 with a lectotype designation, Thompson et al. (1982) suggested to apply the name *Musca lucida* Scopoli, 1763 for a taxon known as *Chrysogaster viduata* (Linnaeus, 1758) by various authors. Maibach et al. (1994b) established that the name *Musca lucida* was wrongly applied to this species and introduced *Melanogaster nuda* (Macquart, 1829) as replacement name for this taxon.

Melanogaster tumescens (Loew, 1873)

Reference. Peck (1988).

Distribution. European parts of Russia and Transcaucasia.

Remarks. Maibach et al. (1994a) placed this taxon under the genus *Melanogaster* Rondani, 1857. This species is not referred to in recent literature and its status is unclear (Speight 2018a).

Melanostoma mellinum (Linnaeus, 1758)

Reference. Radde (1899); Levitin (1962); Tóth (1986); Gudjabidze (2002).

New records. GEORGIA • 1♂ 2♀; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L4, 18 Jun 2018, S. Bot leg.; • 1♀; L6, 19 Jun 2018, S. Bot leg.; • 1♀; L7, 19 Jun 2018, S. Bot leg.; • 1♂ 2♀; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L10, 22 Jun 2018, S. Bot leg.; • 1♂ 2♀; L12, 24 Jun 2018, S. Bot leg.; • 1♀; L16, 27 Jun 2018, S. Bot leg.; • 1♀; L17, 28 Jun 2018, S. Bot leg.; • 1♂; L18, 28 Jun 2018, S. Bot leg.; • 1♀; L20, 1 Jul 2018, S. Bot leg.; • 2♀; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053936; ZFMK-DIP-00054134 = ZFMK-TIS-8000976; • 3♂; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053921, ZFMK-DIP-00053925, ZFMK-

DIP-00054132 = ZFMK-TIS-8001011; • 1♂; L30, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053937 = ZFMK-TIS-8005525; • 5♂ 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053923, ZFMK-DIP-00053924 = ZFMK-TIS-8005524, ZFMK-DIP-00054137, ZFMK-DIP-00054138, ZFMK-DIP-00054141, ZFMK-DIP-00054140; • 4♂ 1♀; L32, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053922, ZFMK-DIP-00053927, ZFMK-DIP-00053928, ZFMK-DIP-00053929, ZFMK-DIP-00054135 = ZFMK-TIS-8001006; • 2♂ 2♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053920, ZFMK-DIP-00053926, ZFMK-DIP-00054139, ZFMK-DIP-00054143; • 1♀; L34, 23 Jul 2018, J. and B. Thormann leg.; ZFMK-DIP-00054136 = ZFMK-TIS-8004305 • 1♀; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054131 = ZFMK-TIS-8000992; • 3♂ 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053931, ZFMK-DIP-00053932, ZFMK-DIP-00053933, ZFMK-DIP-00053935 = ZFMK-TIS-8005530; • 1♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053934; • 1♂; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053930; • 1♂; L38, 25 Jul 2018, J. Thormann leg.; ZFMK-DIP-00054133 = ZFMK-TIS-8004025; • 2♀; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054142, ZFMK-DIP-00054144; • 4♀; L41, 19 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054127 = ZFMK-TIS-8000268, ZFMK-DIP-00054128 = ZFMK-TIS-8000271, ZFMK-DIP-00054129 = ZFMK-TIS-8000270, ZFMK-DIP-00054130 = ZFMK-TIS-8000269; • 1♀; L42, 25–28 Jul 2018, B. Wipfler leg.; ZFMK-DIP-00054210; • 8♂ 10♀; L46, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057756, ZFMK-DIP-00057757, ZFMK-DIP-00057758, ZFMK-DIP-00057759, ZFMK-DIP-00057760, ZFMK-DIP-00057761, ZFMK-DIP-00057762, ZFMK-DIP-00057763, ZFMK-DIP-00057524, ZFMK-DIP-00057525, ZFMK-DIP-00057526, ZFMK-DIP-00057527, ZFMK-DIP-00057528, ZFMK-DIP-00057529, ZFMK-DIP-00057530, ZFMK-DIP-00057531, ZFMK-DIP-00057532, ZFMK-DIP-00057576; • 14♂ 13♀; L47, 25 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057764, ZFMK-DIP-00057765, ZFMK-DIP-00057766, ZFMK-DIP-00057767, ZFMK-DIP-00057768, ZFMK-DIP-00057769, ZFMK-DIP-00057770, ZFMK-DIP-00057771, ZFMK-DIP-00057772, ZFMK-DIP-00057773, ZFMK-DIP-00057774, ZFMK-DIP-00057775, ZFMK-DIP-00057776, ZFMK-DIP-00057777, ZFMK-DIP-00057511, ZFMK-DIP-00057512, ZFMK-DIP-00057513, ZFMK-DIP-00057514, ZFMK-DIP-00057515, ZFMK-DIP-00057516, ZFMK-DIP-00057517, ZFMK-DIP-00057518, ZFMK-DIP-00057519, ZFMK-DIP-00057520, ZFMK-DIP-00057521, ZFMK-DIP-00057522, ZFMK-DIP-00057523; • 7♂ 13♀; L48, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057614, ZFMK-DIP-00057615, ZFMK-DIP-00057616, ZFMK-DIP-00057617, ZFMK-DIP-00057618, ZFMK-DIP-00057619, ZFMK-DIP-00057740, ZFMK-DIP-00057544, ZFMK-DIP-00057545, ZFMK-DIP-00057546, ZFMK-DIP-00057547, ZFMK-DIP-00057548, ZFMK-DIP-00057549, ZFMK-DIP-00057550, ZFMK-DIP-00057551, ZFMK-DIP-00057552, ZFMK-DIP-00057553, ZFMK-DIP-00057554, ZFMK-

DIP-00057555, ZFMK-DIP-00057556; • 1♂ 4♀; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057795, ZFMK-DIP-00057540, ZFMK-DIP-00057541, ZFMK-DIP-00057542, ZFMK-DIP-00057543; • 1♂ 1♀; L50, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057808, ZFMK-DIP-00057575; • 11♂ 7♀; L51, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057741, ZFMK-DIP-00057742, ZFMK-DIP-00057743, ZFMK-DIP-00057744, ZFMK-DIP-00057745, ZFMK-DIP-00057746, ZFMK-DIP-00057748, ZFMK-DIP-00057749, ZFMK-DIP-000577-50, ZFMK-DIP-00057751, ZFMK-DIP-00057752, ZFMK-DIP-00057564, ZFMK-DIP-00057565, ZFMK-DIP-00057567, ZFMK-DIP-00057568, ZFMK-DIP-00057569, ZFMK-DIP-00057570, ZFMK-DIP-00057571; • 3♂ 6♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057753, ZFMK-DIP-00057754, ZFMK-DIP-00057755, ZFMK-DIP-00057558, ZFMK-DIP-00057559, ZFMK-DIP-00057560, ZFMK-DIP-00057561, ZFMK-DIP-00057562, ZFMK-DIP-00057563; • 15♂ 7♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057778, ZFMK-DIP-00057779, ZFMK-DIP-00057780, ZFMK-DIP-00057781, ZFMK-DIP-00057782, ZFMK-DIP-00057783, ZFMK-DIP-00057784, ZFMK-DIP-00057785, ZFMK-DIP-00057786, ZFMK-DIP-00057787, ZFMK-DIP-00057788, ZFMK-DIP-00057790, ZFMK-DIP-00057791, ZFMK-DIP-00057792, ZFMK-DIP-00057793, ZFMK-DIP-00057533, ZFMK-DIP-00057534, ZFMK-DIP-00057535, ZFMK-DIP-00057536, ZFMK-DIP-00057537, ZFMK-DIP-00057538, ZFMK-DIP-00057539; • 14♂ 3♀; L56, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057600, ZFMK-DIP-00057601, ZFMK-DIP-00057602, ZFMK-DIP-00057603, ZFMK-DIP-00057604, ZFMK-DIP-00057605, ZFMK-DIP-00057606, ZFMK-DIP-00057607, ZFMK-DIP-00057608, ZFMK-DIP-00057609, ZFMK-DIP-00057610, ZFMK-DIP-00057611, ZFMK-DIP-00057612, ZFMK-DIP-00057613, ZFMK-DIP-00057572, ZFMK-DIP-00057573, ZFMK-DIP-00057574; • 2♂ 1♀; L57, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP -00057797, ZFMK-DIP-00057798, ZFMK-DIP-00057578; • 9♂ 1♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057799, ZFMK-DIP-00057800, ZFMK-DIP-00057801, ZFMK-DIP-00057802, ZFMK-DIP-00057803, ZFMK-DIP-00057804, ZFMK-DIP-00057805, ZFMK-DIP-00057806, ZFMK-DIP-00057807, ZFMK-DIP-00057557; • 1♀; L58, 27 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057581; • 2♀; L60, 26 Jul 2001 J.-H. Stuke leg.; ZFMK-DIP-00057579, ZFMK-DIP-00057580; • 1♀; L62, 22 Jul 2001 J.-H. Stuke leg.; ZFMK-DIP-00057584; • 2♀; L63, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057582, ZFMK-DIP-00057583; • 1♀; L64, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057577; • 1♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002719; • 2♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002753, ZFMK-TIS-8002754; • 1♂ 2♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002781, ZFMK-TIS-8002783, ZFMK-TIS-8002784.

Genetics. We sequenced nine specimens (MN621983, MN621984, MN621985, MN621986, MN621987, MN621988, MN621989, MN621990, MN621991) and the obtained COI barcodes differ 0–1.22%.

Distribution. Holarctic.

Remarks. Haarto and Ståhls (2014) proved that different *Melanostoma* species share the same COI haplotypes among them and that this mitochondrial gene is not very useful for species identification. Speight (2018a) mentioned the possibility of a species complex under this name because it has a large phenotypic variability and ecological amplitude.

Melanostoma orientale (Wiedemann, 1824)

Reference. Mutin and Barkalov (1999); Barkalov and Mutin (2018).

Distribution. Transcaucasia, Indomalayan Region, and Eastern Palaearctic.

Melanostoma scalare (Fabricius, 1794)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Melanostoma scalare* Fabricius, 1805 [sic].

New records. GEORGIA • *1♂; L1, 16 Jun 2018, S. Bot obs.; • 2♀; L1, 16 Jun 2018, S. Bot leg.; • 2♀; L6, 19 Jun 2018, S. Bot leg.; • 1♀; L14, 25 Jun 2018, S. Bot leg.; • 2♀; L15, 26 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L21, 3 Jul 2018, S. Bot leg.; • 1♂; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053941; • 1♀; L26, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054161; • 2♂; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053939 = ZFMK-TIS-8005526, ZFMK-DIP-00053940; • 4♂ 5♀; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053938, ZFMK-DIP-00053942, ZFMK-DIP-00053943, ZFMK-DIP-00054154 = ZFMK-TIS-8001012, ZFMK-DIP-00053959, ZFMK-DIP-00053961, ZFMK-DIP-00053963, ZFMK-DIP-00053964, ZFMK-DIP-00054151 = ZFMK-TIS-8001014; • 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053962 = ZFMK-TIS-8005531; • 1♂ 1♀; L32, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053950, ZFMK-DIP-00053965; • 9♂ 1♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053949, ZFMK-DIP-00053951, ZFMK-DIP-00053952, ZFMK-DIP-00053953, ZFMK-DIP-00053954, ZFMK-DIP-00054153 = ZFMK-TIS-8000986, ZFMK-DIP-00054158, ZFMK-DIP-00054159, ZFMK-DIP-00054160, ZFMK-DIP-00053960; • 1♂ 1♀; L33, 23 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053945, ZFMK-DIP-00053946, ZFMK-DIP-00053947, ZFMK-DIP-00054156 = ZFMK-TIS-8000984; • 2♂ 1♀; L34, 23 Jul 2018, J. and B. Thormann leg.; ZFMK-DIP-00054147 = ZFMK-TIS-8004304, ZFMK-DIP-00054152 = ZFMK-TIS-8004306, ZFMK-DIP-00054145 = ZFMK-TIS-8004307; • 2♂ 3♀; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053944,

ZFMK-DIP-00053955, ZFMK-DIP-00053957, ZFMK-DIP-00053958, ZFMK-DIP-00054148 = ZFMK-TIS-8000990; • 1♂; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053948; • 1♂ 2♀; L37, 25 Jul 2018, J. Thormann leg.; ZFMK-DIP-00054149 = ZFMK-TIS-8004079, ZFMK-DIP-00054150 = ZFMK-TIS-8004078 ZFMK-DIP-00054155 = ZFMK-TIS-8004076; • 1♀; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053956; • 1♂; L39, 23–26 Jul 2018, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054157; • 1♀; L40, 18 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054146 = ZFMK-TIS-8003799; • 1♀; L42, 25 Jul 2018, B. Rulik leg.; MTD-Dip-A-R-4548; • 6♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002717, ZFMK-TIS-8002718, ZFMK-DIP-00061296, ZFMK-DIP-00061297, ZFMK-DIP-00061298, ZFMK-DIP-00061299; • 6♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4552; • 7♂ 2♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002748, ZFMK-TIS-8002749, ZFMK-DIP-00061300, ZFMK-DIP-00061301, ZFMK-DIP-00061302, ZFMK-DIP-00061303, ZFMK-DIP-00061304, ZFMK-TIS-8002751, ZFMK-TIS-8002750; • 5♂; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4576; • 3♂ 3♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002780, ZFMK-DIP-00061307, ZFMK-DIP-00061308, ZFMK-TIS-8002782, ZFMK-DIP-00061305, ZFMK-DIP-00061306; • 2♂; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4558.

Genetics. We sequenced nine specimens (MN621992, MN621993, MN621994, MN621995, MN621996, MN621997, MN621998, MN621999, MN622000). They differ between 0% and 1.37% among them. These intraspecific distances overlap with interspecific distance; for example, our sequences of *M. mellinum* differ from 0% to 1.22% from sequences of *M. scalare*.

Distribution. Palaearctic, eastern Afrotropics, and Indomalayan Region.

Remarks. Speight (2018a) cited this species "throughout the Oriental region to New Guinea", but Ramage et al. (2018) did not report it from Australasian and Oceanian Regions. Haarto and Ståhls (2014) proved that different *Melanostoma* species share the same COI haplotypes among them and that this mitochondrial gene is not very useful for species identification.

Meligramma guttata (Fallén, 1817)

Reference. Peck (1988) as *Melangyna* (*Meligramma*) *guttata* (Fallén, 1817); Gudjabidze (2002) as *Syrphus gutatus* (Fallen, 1817) [sic].

New records. GEORGIA • 1♂ 1♀; L19, 29 Jun 2018, S. Bot leg.

Distributoin. Holarctic.

Meliscaeva auricollis (Meigen, 1822)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Syrphus auricollis* Meigen, 1822; Barkalov and Mutin (2018).

New records. GEORGIA • 1♀; L2, 16 Jun 2018, S. Bot leg.; • 2♂; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L8, 20 Jun 2018, S. Bot leg.; • 1♂ 1♀; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L12, 24 Jun 2018, S. Bot leg.; • 1♂; L16, 27 Jun 2018, S. Bot leg.; • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054017; • 1♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053811; • 1♀; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053810 = ZFMK-TIS-8005580; • 1♀; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053812 = ZFMK-TIS-8005588.

Genetics. The two sequenced specimens (MN622001, MN622002) differ on 0.3% in the COI barcode. The BIN for these specimens is BOLD:AAZ5262, with a maximum uncorrected pairwise distance f 2.08% within the BIN.

Distribution. Western Palaearctic, including Canary Isles.

Meliscaeva cinctella (Zetterstedt, 1843)

Reference. Levitin (1962) as *Syrphus cinctellus* Zett.; Peck (1988); Gudjabidze (2002) as *Syrphus cinctellus* Zetterstendt, 1843 [sic].

New records. GEORGIA • 1♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4513.

Distribution. Holarctic.

Merodon (*Merodon*) *aberrans* Egger, 1860

Reference. Radde (1899); Peck (1988); Gudjabidze (2002) as *Merodon abarrans* Egger [sic]; Barkalov and Mutin (2018).

New records. GEORGIA • 1♂; L7, 19 Jun 2018, S. Bot leg.

Distribution. Western Palaearctic.

Merodon (*Merodon*) *albifrons* Meigen, 1822

Reference. Peck (1988) listed it only from Azerbaijan; Gudjabidze (2002); Barkalov and Mutin (2018).

New records. GEORGIA • 1♂; L51, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058256.

Distribution. Central and Southern Europe, northern Africa, Crimea, and Transcaucasia.

Merodon (*Merodon*) *annulatus* (Fabricius, 1794)

Reference. Peck (1988).

Remarks. This species was described from France but it has never been recorded again from this country. Other records were reported from Italy, Greece, and Israel (Speight 2018a) but some of these records need confirmation (Vujić et al. 2020). The last identification key where this species was included was done by Sack (1928–1932). This species needs a redefinition/redescription to help distinguish it from other *Merodon* species (Speight 2018a).

Merodon (*Merodon*) *aureus* Fabricius, 1805

Reference. Radde (1899) as *Merodon aeneus* Meigen, 1822; Peck (1988) as *Merodon aeneus* Meigen, 1822 from Armenia, and as *Merodon aureus* Fabricius, 1805 from Germany and Yugoslavia; Gudjabidze (2002) as *Merodon aeneus* Meigen, 1822.

Distribution. Europe, Transcaucasia, and North Africa, but needs reassessment.

Remarks. The *Merodon aureus* group comprises a number of different subgroups and species complexes (Veselić et al. 2017). All the identifications of this species are in need of verification to avoid confusion with other species of this complex. We follow Thompson (2019) and consider *Merodon aeneus* Megerle in Meigen, 1822 a junior synonym of *Merodon aureus*.

Merodon (*Merodon*) *avidus* (Rossi, 1790)

Reference. Peck (1988) listed it only from Armenia as *Merodon avidus*, but also listed it as *Merodon spinipes* (Fabricius, 1794); Gudjabidze (2002) as *Merodon spinipes*.

Distribution. Mediterranean Basin.

Remarks. *Merodon avidus* is a species complex with taxonomic difficulties and a considerable morphological variability (Milankov et al. 2001, 2009; Ståhls et al. 2009; Popović et al. 2015; Ačanski et al. 2016). The color variability has been explained by the differential availability of trophic resources during the larval stage (Hurkmans 1993), but difficulties in distinguishing the species of this complex based on morphological characters remain. All the identifications of the species of this complex need verification.

Merodon (*Merodon*) *caucasicus* Portschinsky, 1877

Reference. Portschinsky (1877); Paramonov (1926b) as *Merodon batumicus* Paramonov, 1926; Levitin (1962) as *Lampetia caucasica* Porth.; Peck (1988) as *Merodon batumi-*

cus Paramonov, 1926 and also as *Merodon caucasicus* Portschinsky, 1877; Gudjabidze (2002) as *Merodon batumicus* Paramonov, 1925 [sic] and also as *Merodon caucasicus* Potschinkyi, 1881 [sic]; Barkalov and Mutin (2018).

New records. GEORGIA • 2♂ 2♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053917 = ZFMK-TIS-8005523, ZFMK-DIP-00053996 = ZFMK-TIS-8003434, ZFMK-DIP-00053918 = ZFMK-TIS-8005529, ZFMK-DIP-00053919 = ZFMK-TIS-8005534; • 2♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053912 = ZFMK-TIS-8005514, ZFMK-DIP-00053997 = ZFMK-TIS-8003449; • 9♂ 1♀; L50, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057975, ZFMK-DIP-00057976, ZFMK-DIP-00057977, ZFMK-DIP-00057978, ZFMK-DIP-00057979, ZFMK-DIP-00057980, ZFMK-DIP-00057981, ZFMK-DIP-00057982, ZFMK-DIP-00057983, ZFMK-DIP-00057984; • 2♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4560, ZFMK-TIS-8002768.

Genetics. We sequenced five specimens (MN622003, MN622004, MN622005, MN622006, MN622007) that differ from 0% to 0.61% in their COI sequence. This species is not present in BOLD or GenBank, so this are the first COI sequences for this taxon. The closest COI sequence in BOLD systems to the *Merodon caucasicus* sequences is one of *Merodon mariae* Hurkmans, 1993 (3.21–3.82% difference).

Distribution. Balkan Peninsula and Transcaucasia.

Remarks. *Merodon batumicus* Paramonov, 1926 is now considered a junior synonym of *M. caucasicus* (proposed by Popov 2007; A. Vujić pers. comm. in Smit and Langeveld 2018). *Merodon batumicus* was described from Batumi area in Georgia (Paramonov 1926b) and reported for this country by Peck (1988) and Gudjabidze (2002).

Merodon (*Merodon*) *cinereus* (Fabricius, 1794)

Reference. Peck (1988); Gudjabidze (2002) as *Merodon cinereus* Fabricius, 1777 [sic].

New records. GEORGIA • 1♂; L15, 26 Jun 2018, S. Bot leg.

Distribution. Needs reassessment.

Remarks. *Merodon cinereus* is a species complex (Milankov et al. 2008; Francuski et al. 2011; Šašić et al. 2016) and all the identifications of this species complex are in need of verification.

Merodon (*Merodon*) *crassifemoris* Paramonov, 1925

Reference. Barkalov and Mutin (2018).

Distribution. Mediterranean Basin, Crimea, and Transcaucasia.

Remarks. Barkalov and Mutin (2018) listed this species from Transcaucasia, but Speight (2018a) listed it only from Azerbaijan.

Merodon (*Merodon*) *femoratus* Sack, 1913

Reference. Peck (1988); Gudjabidze (2002) as *Merodon femoralis* Sack, 1932 [sic].

Distribution. Mediterranean Basin, Crimea and Transcaucasia.

Merodon (*Merodon*) *gudaurensis* Portschinsky, 1877

Reference. Portschinsky (1877); Peck (1988); Gudjabidze (2002) as *Merodon gudauriensis* Potshinskyi, 1881 [sic].

Distribution. Georgia.

Merodon (*Merodon*) *kiritshenkoi* (Stackelberg, 1960)

Reference. Peck (1988); Barkalov and Mutin (2018).

Distribution. Northern Caucasus and Transcaucasia.

Remarks. The type locality of this species is in North Ossetia-Alania (Northern Caucasus), but Peck (1988) and Barkalov and Mutin (2018) listed it also from Transcaucasia.

Merodon (*Merodon*) *loewi* Van der Goot, 1964

Reference. Peck (1988) listed it only from Armenia; Gudjabidze (2002); Barkalov and Mutin (2018).

Distribution. Europe, southern parts of European Russia, Transcaucasia, Turkey, and Israel.

Merodon (*Merodon*) *moenium* Hoffmannsegg in Meigen, 1822

New records. GEORGIA • 1♂; L4, 18 Jun 2018, S. Bot leg.; • 3♂; L7, 19 Jun 2018, S. Bot leg.; •1♂; L8, 20 Jun 2018, S. Bot leg.; • 4♂; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L50, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057998.

Remarks. This species belongs to the *avidus* species complex and the identification using adult morphology is not straightforward (see remarks under *Merodon avidus*). Spring generations of *Merodon avidus* are very similar to those of *M. moenium* (Ačanski et al. 2016). Reported for Georgia for the first time.

Merodon (*Merodon*) *nanus* (Sack, 1931)

Reference. Peck (1988); Gudjabidze (2002) as *Merodon nanus* Sack, 1932 [sic]; Barkalov and Mutin (2018).

Distribution. Needs reassessment, but its presence confirmed from Greece, Armenia, Iran, and Middle East.

Remarks. *Merodon nanus* is a species complex (Vujić et al. 2015; Tubić et al. 2018) and all the records of this species complex are in need of verification.

Merodon (*Merodon*) *natans* (Fabricius, 1794)

Reference. Speight (2018a).

Distribution. Mediterranean Basin and Caucasus Mountains.

Remarks. Speceis very similar to *Merodon* (*Merodon*) *pulveris* Vujić and Radenković in Radenković et al. 2011 (Radenković et al. 2011).

Merodon (*Merodon*) *nigritarsis* Rondani, 1845

Reference. Peck (1988) as *Merodon spinipes nigritarsis* Rondani, 1845.

Distribution. Europe, Transcaucasia, and Turkey, but needs reassessment.

Remarks: *M. nigritarsis* is part of the *nigritarsis* species group. It is unclear which species name should be applied to the specimens mentioned by Peck (1988). All records of this species group are in need of verification.

Merodon (*Merodon*) *obscuritarsis* Strobl in Czerny & Strobl, 1909

Reference. Barkalov and Mutin (2018).

Distribution. Needs reassessment, but recorded from Spain and France. Barkalov and Mutin (2018) mentioned also Transcaucasia and northern Africa as part of its range.

Remarks. Marcos-García et al. (2007) stated that *M. tricinctus* Sack, 1913 is closely related to *M. obscuritarsis* and can be a synonym, but further studies are needed. Barkalov and Mutin (2018) reported both *M. obscuritarsis* and *Merodon tricinctus* from the Transcaucasia.

Merodon (*Merodon*) *portschinskyi* (Stackelberg, 1924)

Reference. Peck (1988); Gudjabidze (2002) as *Merodon portshinskyi* Sthakelberg, 1956 [sic]; Speight (2018a).

New records. GEORGIA • 2♂ 3♀; L4, 18 Jun 2018, S. Bot leg.; • 1♂; L5, 18 Jun 2018, S. Bot leg.; • 1♂ 1♀; L15, 26 Jun 2018, S. Bot leg.; • 1♂; L19, 29 Jun 2018, S. Bot leg.; • 6♂; L20, 1 Jul 2018, S. Bot leg.; • 4♂; L20, 2 Jul 2018, S. Bot leg.

Distribution. Northern Caucasus and Transcaucasia.

Merodon (*Merodon*) *pruni* (Rossi, 1790)

Reference. Peck (1988).

Distribution. Western Palaearctic, including Turkmenistan and Iraq.

Merodon (*Merodon*) *ruficornis* Meigen, 1822

Reference. Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018); Speight (2018a).

Distribution. Cetral and Southern Europe, Balkan Peninsula and Ukraine (see Vujić et al. 2012).

Remarks. *M. ruficornis* is part of a species complex. Several species of this complex occur or are likely to occur in Georgia, but *M. ruficornis* itself is only known from Europe (Vujić et al. 2012). All the records of this species are in need of verification.

Merodon (*Merodon*) *rufipes* Sack, 1913

Reference. Gudjabidze (2002) as *Merodon rufipes* Sack, 1932 [sic].

Distribution. Bulgaria, Ukraine, and Georgia.

Merodon (*Merodon*) *tricinctus* Sack, 1913

Reference. Peck (1988) listed it only from Armenia; Barkalov and Mutin (2018); Speight (2018a).

Distribution. Western Palaearctic.

Remarks. Marcos-Garcia et al. (2007) stated that *M. tricinctus* is closely related to *M. obscuritarsis* and they can be synonyms, but further studies are needed.

Merodon (*Merodon*) *velox* Loew, 1869

Reference. Peck (1988).

Distribution. Balkan Peninsula, Greece, Turkey, and Transcaucasia.

Mesembrius peregrinus (Loew, 1846)

Reference. Peck (1988); Gudjabidze (2002) as *Helophilus* (*Mesembriuc*) *peregrinus* Loew, 1846 [sic]; Speight (2018a).

New records. GEORGIA • 1♀; L60, 26 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057985.

Distribution. Palaearctic.

Microdon analis (Macquart, 1842) / *Microdon major* Andries, 1912

Reference. Levitin (1962) as *Microdon eggeri* Mik.; Peck (1988) as *Microdon eggeri*-Mik, 1897; Gudjabidze (2002) as *Microdon eggeri* Mick, 1897 [sic].

New records. GEORGIA • 1♂; L16, 26 Jun 2018, S. Bot leg.; •1♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002706.

Genetics. We sequenced one specimen (MN622008), and its COI barcode is very similar to other published sequences of *M. analis* (99.85% similarity), *M. mutabilis* (98.92% similarity) and *M. major* (96.94% similarity). The BIN for this taxon is BOLD:ABA2554.

Distribution. Palaearctic, but needs reassessment for each species of this complex.

Remarks. Doczkal and Schmid (1999) synonymised *M. eggeri* under *M. analis*. *Microdon analis* and *Microdon major* can only be distinguished using features of its developmental stages (Schmid 2004). It is unclear if one of the two or both species occur in Georgia.

Microdon mutabilis (Linnaeus, 1758) / *Microdon myrmicae* Schönrogge et al., 2002

Reference. Tóth (1986) as *Microdon mutabilis* (Linnaeus, 1758); Peck (1988) as *M. mutabilis*; Gudjabidze (2002) as *M. mutabilis*; Barkalov and Mutin (2018) as *M. mutabilis*.

New records. GEORGIA • 1♂; L6, 19 Jun 2018, S. Bot leg.; • 1♂; L12, 24 Jun 2018, S. Bot leg.; • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.

Distribution. Palaearctic, but needs reassessment for each species of this complex.

Remarks. *Microdon mutabilis* and *Microdon myrmicae* can only be distinguished using features of its developmental stages (Schönrogge et al. 2002). It is unclear if one of the two or both species occur in Georgia.

Milesia crabroniformis (Fabricius, 1775)

Reference. Peck (1988); Gudjabidze (2002) as *Milesia crabroniformis* Linnaeus, 1758 [sic].

New records. GEORGIA • 3♂ 4♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053969 = ZFMK-TIS-8003454, ZFMK-DIP-00053628, ZFMK-

DIP-00053629, ZFMK-DIP-00053631, ZFMK-DIP-00053632 = ZFMK-TIS-8005543, ZFMK-DIP-00053633, ZFMK-DIP-00053634; • 1♂; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053630 = ZFMK-TIS-8005535; • 1♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053635; • 1♀; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4531; • 4♂ 1♀; L69, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4505, MTD-Dip-A-R-4515, MTD-Dip-A-R-4516, ZFMK-GG-BC8002669, MTD-Dip-A-R-4517.

Genetics. Three specimens were sequenced (MN622009, MN622010, MN622011), and their COI barcodes differ from 0% to 0.38%. BOLD currently lists two specimens with COI sequences from Portugal (99.54–99.85% similarity with our samples), but the data are not public prior to this publication.

Distribution. Central and Southern Europe, North Africa, Turkey and Georgia.

Remarks. Zaitzev (1912) listed from Abkhazia an unidentified species of *Milesia*, close to *M. cabroniformis* but with larger yellow pattern. The identity of this taxon remains unclear.

Milesia semiluctifera (Villers, 1798)

Reference. Peck (1988); Seropian (2013b) as field observation; Speight (2018a).

Distribution. Europe, Middle East, Transcaucasia, east into Turkmenistan.

Myathropa florea (Linnaeus, 1758)

Reference. Radde (1899) as *Helophilus floreus* (Linnaeus, 1758) and *Helophilus nigrotarsatus* Schiner, 1860; Levitin (1962) as *Myiatropa florea* L. [sic]; Tóth (1986); Peck (1988); Gudjabidze (2002) as *Myiatropa florae* Linnaeus, 1758 [sic].

New records. GEORGIA • 1♂; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L8, 20 Jun 2018, S. Bot leg.; • 3♂; L10, 22 Jun 2018, S. Bot leg.; • 2♀; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L21, 3 Jul 2018, S. Bot leg.; • 3♂; L22, 3 Jul 2018, S. Bot leg.; • 3♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053746 = ZFMK-TIS-8005563, ZFMK-DIP-00053750 = ZFMK-TIS-8005564, ZFMK-DIP-00054089 = ZFMK-TIS-8000972; • 1♂; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4509; • 2♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4521; • 1♂; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053748 = ZFMK-TIS-8005556; • 1♀; L35, 24 Jul 2018, J. Thormann leg.; ZFMK-DIP-00054090 = ZFMK-TIS-8003928; • 1♂ 4♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053743, ZFMK-DIP-00053745, ZFMK-DIP-00053747, ZFMK-DIP-00053749 = ZFMK-TIS-8005738, ZFMK-DIP-00053994 = ZFMK-TIS-8003423; • 1♂; L38, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054091 = ZFMK-TIS-8004229; • 2♂; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053742 = ZFMK-TIS-8005555, ZFMK-DIP-00053744; • 1♂ 2♀; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4538; • 1♂; L48, 24

Jul 2001 J.-H. Stuke leg.; ZFMK-DIP-00058001; • 1♀; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058003; • 1♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058002; • 1♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058255; • 1♂ 1♀; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4499, ZFMK-TIS-8002663.

Genetics. Four specimens were successfully sequenced (MN622012, MN622013, MN622014, MN622015) and their COI barcodes differ 0.15–0.61%. Currently there are three BINs in BOLD systems with specimens identified as *M. florea*: BOLD:ADQ8445, BOLD:ADR1776, and BOLD:AAP9713. Our specimens belong to the last BIN.

Distribution. Palaearctic.

Myolepta dubia (Fabricius, 1805)

Reference. Peck (1988) as *Myolepta luteola* (Gmelin, 1790); Gudjabidze (2002) as *M. luteola*; Reemer et al. (2005); Barkalov and Mutin (2018).

Distribution. Europe, European parts of Russia and Transcaucasia.

Remarks. Thompson and Pont (1994) noted that the name *Musca luteola* Gmelin, 1790 was preoccupied by *Musca luteola* Scopoli, 1763 and suggested the name *Thereva dubia* Fabricius, 1805 [= *Myolpeta dubia* (Fabricius, 1805)] as the next available name for this taxon.

Reemer et al. (2005) mentioned the possibility that part of the records of *M. dubia* from Transcaucasia (Stackelberg and Richter 1968 from Azerbaijan) may belong to *Myolepta trojana* Reemer and Hauser in Reemer, Hauser & Speight, 2005, as only one single specimen from Georgia was identified as *M. dubia*.

Myolepta nigritarsis Coe, 1957

Reference. Peck (1988).

Distribution. Europe, European parts of Russia, and Transcaucasia.

Myolepta obscura Becher, 1882

Reference. Peck (1988).

Distribution. Central Europe, Balkan Peninsula, Turkey, and Transcaucasia.

Myolepta potens (Harris, 1779)

Reference. Peck (1988); Speight (2018a).

Distribution. Europe, Turkey, and Transcaucasia.

Remarks. Reemer et al. (2005) suggested caution with records of this species from the Caucasus Region (see Stackelberg and Richter 1968) because the closely related species *Myolepta mada* Reemer and Hauser in Reemer, Hauser & Speight, 2005 may occur in this region, although it is currently known only from Azerbaijan.

The year of publication for this species is a convention. The original work by Harris (1776–1780) was published in five 'decads' or parts. Peck (1988) used the conventional date of 1780? with a question mark for decads 3, 4, and 5 based on Lisney (1960). Evenhuis (1997: page 343) established that the decad 4, where *Musca potens* is described on page 110, was dated as 1779 based on the latest date of the plates. Thus, the year of publication should be 1779.

Myolepta trojana Reemer and Hauser in Reemer, Hauser & Speight, 2005

New records. GEORGIA • 2♂; L21, 3 Jul 2018, S. Bot leg.

Distribution. Greece, Turkey, Azerbaijan, and Iran.

Remarks. Reported for Georgia for the first time.

Myolepta vara (Panzer, 1798)

Reference. Peck (1988).

Distribution. Europe and Transcaucasia.

Remarks. Reemer et al. (2005) studied material from Azerbaijan, but no published record exists explicitly from Georgia. Peck (1988) listed the Far East (Khabarovsk and Primorye Territories) in the range of this species, but these records needs verification (Reemer et al. 2005).

Neoascia (*Neoascia*) *annexa* (Müller, 1776)

Reference. Peck (1988) as *Neoascia floralis* (Meigen, 1822); Gudjabidze (2002) as *Neoascia floralis* Meigen, 1822 [sic]; Speight (2018a).

New records. GEORGIA • 1♀; L65, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057973.

Distribution. Europe, European parts of Russia, and Transcaucasia.

Remarks. Thompson (1981) synonymised *Ascia floralis* Meigen, 1822 [= *Neoascia floralis* (Meigen, 1822)] under *Neoascia podagrica* (Fabricius, 1775), and explained that the name *floralis* Meigen was applied wrongly by some authors to *N. annexa*. Previous records of *N. annexa* need verification as they might belong to *Neoascia subannexa* Claußen and Hayat 1997.

Neoascia (*Neoascia*) *podagrica* (Fabricius, 1775)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Neoascia podagrica* Fabricius, 1794 [sic]; Barkalov and Mutin (2018).

Distribution. Palaearctic.

Neoascia (*Neoascia*) *tenur* (Harris, 1779)

Reference. Peck (1988) as *Neoascia dispar* (Meigen, 1822).

New records. GEORGIA • L52, 30 Jul 2001, J.-H. Stuke leg.; 1♀; ZFMK-DIP-00057974].

Distribution. Europe, European parts of Russia, Turkey, Transcaucasia, and into Siberia.

Remarks. Thompson (1981) synonymised *Ascia dispar* Meigen, 1822 [= *Neoascia dispar* (Meigen, 1822)] under *Neoascia meticulosa* (Scopoli, 1763), and explained that the name *dispar* Meigen was applied wrongly by some authors to *N. tenur*.

The year of publication for this species is a convention. The original work by Harris (1776–1780) was published in five 'decads' or parts. Peck (1988) used the conventional date of 1780? with a question mark for decads 3, 4, and 5 based on Lisney (1960). Evenhuis (1997: page 343) established that the decad 4, where *Musca tenur* is described on page 112, was dated as 1779 based on the latest date of the plates. Thus, the year of publication should be 1779.

Neoascia (*Neoascia*) *subannexa* Claußen and Hayat 1997

New records. GEORGIA • 1♂; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.; • 1♀; L20, 1 Jul 2018, S. Bot leg.; • 1♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053862; • 6♂1♀; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053855, ZFMK-DIP-00053858, ZFMK-DIP-00053859 = ZFMK-TIS-8005596, ZFMK-DIP-00053860, ZFMK-DIP-00054092, ZFMK-DIP-00054094, ZFMK-DIP-00053864; • 2♂ 3♀; L26, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053856, ZFMK-DIP-00053857, ZFMK-DIP-00054093, ZFMK-DIP-00054095, ZFMK-DIP-00053861; • 1♀; L30, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053863 = ZFMK-TIS-8005602; • 1♀; L58, 27 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057972; • 2♂; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4529, ZFMK-GGBC8002675; • 1♂; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4505; • 2♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002724, MTD-Dip-A-R-4596; • 4♂ 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002761, ZFMK-TIS-8002762, ZFMK-TIS-8002763, ZFMK-DIP-00061309, ZFMK-DIP-00061312; • 3♂ 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members

leg.; MTD-Dip-A-R-4557, MTD-Dip-A-R-4580; • 1♂ 2♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002786, ZFMK-DIP-00061310, ZFMK-DIP-00061311.

Genetics. We sequenced seven specimens (MN622016, MN622017, MN622018, MN622019, MN622020, MN622021, MN622022), whose COI barcodes differ 0–1.52%. This species was not yet registered in BOLD, and our COI sequences were similar (> 98.3%) to other private sequences in BOLD identified as *Neoascia annexa*.

Distribution. Turkey and Georgia.

Remarks. Reported for Georgia for the first time.

Neoascia (*Neoasciella*) *geniculata* (Meigen, 1822)

Reference. Gudjabidze (2002).

Distribution. Europe, into Russia to eastern Siberia.

Neoascia (*Neoasciella*) *interrupta* (Megerle in Meigen, 1822)

Reference. Peck (1988); Gudjabidze (2002); Speight (2018a).

Distribution. Europe into Russia to eastern Siberia, and Caucasus Region.

Neoascia (*Neoasciella*) *meticulosa* (Scopoli, 1763)

Reference. Peck (1988) as *Neoascia aenea* Meigen, 1822; Gudjabidze (2002) as *Neoascia aenea* Meigen, 1822; Speight (2018a).

Distribution. Palaearctic.

Remarks. Thompson (1981) synonymised *N. aenea* under *N. meticulosa*.

Neoascia (*Neoasciella*) *obliqua* Coe, 1940

Reference. Peck (1988) from Armenia; Gudjabidze (2002) as *Neoascia oblique* Coe [sic]; Speight (2018a).

Distribution. Europe, European parts of Russia, and Transcaucasia.

Neocnemodon latitarsis (Egger, 1865)

Reference. Peck (1988); Gudjabidze (2002) as *Cnemodon latitarsis* Egger, 1776 [sic]; Barkalov and Mutin (2018); Speight (2018a).

Distribution. Europe, European parts of Russia, and Transcaucasia. Recorded in North America (New Brunswick) but not established (Skevington et al. 2019).

***Neocnemodon vitripennis* (Meigen, 1822)**

Reference. Peck (1988).
Distribution. Palaearctic.

***Orthonevra brevicornis* (Loew, 1843)**

Reference. Peck (1988); Gudjabidze (2002) as *Orthoneura brevicornis* Loew, 1848 [sic] and *Chrysogaster brevicornis* Loew, 1848 [sic]; Speight (2018a).
Distribution. Europe, Transcaucasia, eastwards into Siberia.

***Orthonevra elegans* (Wiedemann in Meigen, 1822)**

Reference. Peck (1988); Gudjabidze (2002).
Distribution. Palaearctic, except in the Mediterranean Basin.

***Orthonevra frontalis* (Loew, 1843)**

Reference. Peck (1988).
Distribution. Palaearctic.

***Orthonevra intermedia* Lundbeck, 1916**

Reference. Gudjabidze (2002) as *Chrysogaster intermedia* Lennaeus, 1758 [sic].
Distribution. Palaearctic.

***Orthonevra nobilis* (Fallén, 1817)**

Reference. Peck (1988); Gudjabidze (2002); Speight (2018a).
New records. GEORGIA • 1♀; L11, 29 Jun 2018, S. Bot leg.; • 3♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057994, ZFMK-DIP-00057995, ZFMK-DIP-00057996; • 1♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057997.
Distribution. Palaearctic.

***Orthonevra pilifacies* Stackelberg, 1952**

Reference. Peck (1988).
Distribution. Transcaucasia and Central Palaearctic into Afghanistan.

Orthonevra plumbago (Loew, 1840)

Reference. Gudjabidze (2002) as *Orthonevra plumbago* Loew, 1848 [sic].

Distribution. Europe, European parts of Russia, and Georgia.

Paragus (*Pandasyophthalmus*) *constrictus* Šimič, 1986

New records. GEORGIA • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057880; • 3♂; L59, 28 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057877, ZFMK-DIP-00057878, ZFMK-DIP-00057879.

Distribution. Palaearctic, but needs reassessment due to confusion with other similar species.

Remarks. Reported for Georgia for the first time.

Paragus (*Pandasyopthalmus*) *haemorrhous* Megerle in Meigen, 1822

Reference. Tóth (1986); Peck (1988).

New records. GEORGIA • 1♂; L4, 18 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.; • 1♂; L31, 21 Jul 2018, J. Astrin leg.; ZFMK-TIS-8000135; • 1♂; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054198; • 4♂ 1♀; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054196 = ZFMK-TIS-8000869, ZFMK-DIP-00054199, ZFMK-DIP-00054200, ZFMK-DIP-00054201, ZFMK-DIP-00054202; • 1♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057856; • 1♂; L60 26 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057853; • 19♂; L66, 28 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057834, ZFMK-DIP-00057835, ZFMK-DIP-00057836, ZFMK-DIP-00057837, ZFMK-DIP-00057838, ZFMK-DIP-00057839, ZFMK-DIP-00057840, ZFMK-DIP-00057841, ZFMK-DIP-00057842, ZFMK-DIP-00057843, ZFMK-DIP-00057844, ZFMK-DIP-00057845, ZFMK-DIP-00057846, ZFMK-DIP-00057847, ZFMK-DIP-00057848, ZFMK-DIP-00057849, ZFMK-DIP-00057850, ZFMK-DIP-00057851, ZFMK-DIP-00057852; • 2♂; L68, 29 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057854, ZFMK-DIP-00057855; • 1♂; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002789.

Genetics. We successfully sequenced three specimens (MN622025, MN622026, MN622032) and their COI barcodes differ from 0.3% to 0.61%. In BOLD there are three BINs with specimens identified as *P. haemorrhous*: BOLD:AAC2439, BOLD:ABZ4619, and BOLD:AAC2438.

Distribution. Holarctic and Afrotropical Regions.

Paragus (*Pandasyopthalmus*) *tibialis* (Fallén, 1817)

Reference. Bigot (1880) as *Orthonevra varipes* Bigot, 1880; Levitin (1962); Gudjabidze (2002).

New records. GEORGIA • 1sp; L31, 21 Jul 2018, J. Astrin leg.; ZFMK-TIS-8000135; • 1♂; L45, 25 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057868; • 1♂; L46, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057860; • 2♂; L59, 28 Jul 2001 J.-H. Stuke leg.; ZFMK-DIP-00057859, ZFMK-DIP-00057869; • 8♂; L63, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057858, ZFMK-DIP-00057861, ZFMK-DIP-00057862, ZFMK-DIP-00057863, ZFMK-DIP-00057864, ZFMK-DIP-00057865, ZFMK-DIP-00057866, ZFMK-DIP-00057867; • 1♂; L68, 29 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057857; • 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002759.

Genetics. One specimen of this species was sequenced (MN622023), which has identical COI barcode as other specimens of *P. tibialis* previously published (AY174468, AY174465, AY476841 from the BIN BOLD:ABZ4619), but also has 100% similarity in the COI sequence with specimens of *P. coadunatus* Rondani, 1847 (AY174467) and *P. haemorrhous* (AY174470, AY174466, AY174469).

Distribution. Western Palaearctic, but needs reassessment.

Paragus (*Paragus*) *albifrons* (Fallén, 1817)

Reference. Peck (1988); Gudjabidze (2002); Speight (2018a).

New records. GEORGIA • 1♂; L47, 25 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057872; • 1♂; L58, 27 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057870; • 1♂; L68, 29 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057871.

Distribution. Palaearctic.

Paragus (*Paragus*) *bicolor* (Fabricius, 1794)

Reference. Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♀; L32, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053870 = ZFMK-TIS-8005600; • 1♂; L47, 25 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057875; • 1♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057876; • 1♂; L63, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057874.

Genetics. A single specimen was sequenced (MN622024), and its COI barcode is identical as one published sequence for a specimen identified as *Paragus testaceus* Meigen, 1822 (AY476848) and 99.42% similar to another specimen of *P. bicolor* (AY174462), or 99.83% similar to two private sequences of *P. bicolor*. The BIN BOLD:AAF8068 in BOLD systems comprises specimens of *P. testaceus* and *P. bicolor*.

Distribution. Holarctic.

Paragus (*Paragus*) *compeditus* Wiedemann, 1830

Reference. Peck (1988).

Distribution. Palaearctic and Afrotropical Regions.

Paragus (*Paragus*) *finitimus* Goeldlin de Tiefenau, 1971

Reference. Tóth (1986).

Distribution. Palaearctic.

Paragus (*Paragus*) *flammeus* Goeldlin de Tiefenau, 1971

Reference. Speight (2018a).

Distribution. Western and Central Palaearctic.

Paragus (*Paragus*) *kopdagensis* Hayat & Claußen, 1997

Reference. Speight (2018a) from Northern Caucasus.

New records. GEORGIA • 2♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057832, ZFMK-DIP-00057833.

Distribution. Turkey and Caucasus Region.

Remarks. Reported for Georgia for the first time.

Paragus (*Paragus*) *pecchiolii* Rondani, 1857

New records. GEORGIA • 1♂; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054205 = ZFMK-TIS-8000969; • 1♀; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054206 = ZFMK-TIS-8000989; • 1♂ 1♀; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054203 = ZFMK-TIS-8000871, ZFMK-DIP-00054204 = ZFMK-TIS-8000872; • 2♂ 1♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002787, ZFMK-DIP-00061313, ZFMK-TIS-8002788; • 2♂; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4562.

Genetics. We sequenced four specimens (MN622027, MN622028, MN622029, MN622030) and their COI barcodes differ from 0% to 0.15%, and they are > 99.2% similar to other published and non-publicly available COI sequences of *P. pecchiollii*. The BIN for our specimens is BOLD:ABA3664.

Distribution. Western Palaearctic.

Remarks. Reported for Georgia for the first time.

Paragus (*Paragus*) *quadrifasciatus* Meigen, 1822

Reference. Peck (1988); Gudjabidze (2002); Speight (2018a).

New records. GEORGIA • 1♀; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054195 = ZFMK-TIS-8000868; • 1♂; L61, 22 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057882.

Genetics. A single female was sequenced (MN622031) and its COI barcode is very similar to other private sequences of *P. quadrifasciatus* in BOLD systems (> 99.7%). The BIN for our specimen is BOLD:ACG5063.

Distribution. Palaearctic.

Parasyrphus annulatus (Zetterstedt, 1838)

Reference. Peck (1988); Gudjabidze (2002) as *Syrphus annulatus* Zetterstend, 1843 [sic]; Speight (2018a).

New records. GEORGIA • 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♂ 1♀; L7, 19 Jun 2018, S. Bot leg.

Distribution. Palaearctic.

Parasyrphus nigritarsis (Zetterstedt, 1843)

Reference. Peck (1988)

New records. GEORGIA • 5♂; L17, 28 Jun 2018, S. Bot leg.

Distribution. Holarctic.

Parasyrphus punctulatus (Verrall, 1873)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Syrphus punctullatus* Verall [sic]; Speight (2018a).

Distribution. Palaearctic, including Nepal.

Parasyrphus vittiger (Zetterstedt, 1843)

Reference. Peck (1988); Speight (2018a).

Distribution. Europe, European parts of Russia into Siberia, and Caucasus Region.

Parhelophilus frutetorum (Fabricius, 1775)

Reference. Peck (1988) as *Helophilus* (*Parhelophilus*) *frutetorum* (Fabricius, 1775); Speight (2018a).

Distribution. Europe, European parts of Russia into Siberia, and Transcaucasia.

Parhelophilus versicolor (Fabricius, 1794)

Reference. Peck (1988) *Helophilus* (*Parhelophilus*) *versicolor* (Fabricius, 1794).

Distribution. Palaearctic.

Pelecocera (*Chamaesyrphus*) *scaevoides* (Fallén, 1817)

Reference. Peck (1988) as *Chamaesyrphus scaevoides* (Fallén, 1817); Gudjabidze (2002) as *Chamaesyrphus scaevoides* (Fallén, 1817); Speight (2018a).

Distribution. Europe, European parts of Russia, and Transcaucasia.

Pelecocera (*Pelecocera*) *tricincta* Hoffmannsegg in Meigen, 1822

Reference. Peck (1988); Speight (2018a).

Distribution. Europe, Transcaucasia, European parts of Russia into Siberia.

Pipiza austriaca Meigen, 1822

Reference. Peck (1988).

Distribution. Needs reassessment after Vujić et al. (2013).

Pipiza festiva Meigen, 1822

Reference. Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018); Speight (2018a).

Distribution. Palaearctic, but not in northern Africa.

Pipiza lugubris (Fabricius, 1775)

Reference. Tóth (1986) as *Pipiza signata* Meigen, 1822.

Distribution. Europe and Georgia.

Remarks. Vujić et al. (2013) synonymised *P. signata* under *P. lugubris*. The specimen collected and studied by Tóth (1986) needs verification.

Pipiza noctiluca (Linnaeus, 1758)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002).

Distribution. Probably Europe, Russia and Turkey, but needs reassessment after Vujić et al. (2013).

Pipizella annulata (Macquart, 1829)

Reference. Peck (1988).

Distribution. Europe.

Remarks. According to Van Steenis and Lucas (2011), records of this species from Turkey might belong to *Pipizella orientalis* Van Steenis & Lucas, 2011. It seems reasonable that the material from Transcaucasia cited by Peck (1988) might also belong to *P. orientalis*.

Pipizella cornuta Kuznetzov, 1987

Reference. Kuznetzov (1987); Van Steenis and Lucas (2011); Barkalov and Mutin (2018).

New records. GEORGIA • 2♂; L16, 27 Jun 2018, S. Bot leg.

Distribution. Northern Caucasus and Georgia.

Remarks. Kuznetzov (1987), in the original description of this species, listed the type material from North Ossetia, but the type material studied by Van Steenis and Lucas (2011) was collected in South Ossetia, as authors pointed out (Van Steenis and Lucas 2011). Consequently, the records from Northern Caucasus need verification.

Pipizella curvitibia Stackelberg, 1960

Reference. Van Steenis and Lucas (2011).

Distribution. North-east Turkey and Transcaucasia.

Pipizella divicoi (Goeldlin de Tiefenau, 1974)

Reference. Kuznetzov (1987); Peck (1988) as *Pipizella divicoi* (Goeldlin de Tiefenau, 1974) and as *Pipizella opaca* Violovitsh, 1981; Van Steenis and Lucas (2011); Barkalov and Mutin (2018).

New records. GEORGIA • 1♂; L19, 29 Jun 2018, S. Bot leg.; • 4♂ 2♀; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054187 = ZFMK-TIS-8000862, ZFMK-DIP-00054188 = ZFMK-TIS-8000863, ZFMK-DIP-00054189, ZFMK-DIP-00054190, ZFMK-TIS-8000866, ZFMK-TIS-8000867; • 1♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057830; • 12♂; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057818, ZFMK-DIP-00057819, ZFMK-DIP-00057820, ZFMK-DIP-00057821, ZFMK-DIP-00057822, ZFMK-DIP-00057823, ZFMK-DIP-00057824, ZFMK-DIP-00057825, ZFMK-DIP-00057826, ZFMK-DIP-00057827, ZFMK-DIP-00057828, ZFMK-DIP-00057829.

Genetics. We sequenced four specimens (MN622033, MN622034, MN622035, MN622036) with identical COI barcode. Our COI barcodes are very similar to other sequences from different species in BOLD systems, such as *Pipizella zeneggenensis* (Goeldlin de Tiefenau, 1974) (99.69–99.83% similarity), *P. divicoi* (99.69%), and *P. viduata* (Linnaeus, 1758) (99.69%).

Distribution. Palaearctic, but not in northern Africa.

Pipizella nataliae Kuznetzov, 1990

New records. GEORGIA • 1♂; L17, 18 Jun 2018, S. Bot leg.

Distribution. Northern Caucasus, Georgia, and Turkey.

Remarks. Reported for Georgia for the first time.

Pipizella orientalis Van Steenis & Lucas, 2011

Reference. Van Steenis and Lucas (2011); Speight (2018a).

New records. GEORGIA • 2♂; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054191 = ZFMK-TIS-8000864, ZFMK-DIP-00054192 = ZFMK-TIS-8000865; • 9♂; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057809, ZFMK-DIP-00057810, ZFMK-DIP-00057811, ZFMK-DIP-00057812, ZFMK-DIP-00057813, ZFMK-DIP-00057814, ZFMK-DIP-00057815, ZFMK-DIP-00057816, ZFMK-DIP-00057817.

Genetics. We were able to sequence two specimens of this taxon (MN622037, MN622038), which is not present in BOLD systems or GenBank. The two COI barcodes were identical between them and very similar to other *Pipizella* species (100% similarity with sequences of *Pipizella annulata* and 99.24% similar to *P. zeneggenensis*).

Distribution. Georgia and Turkey.

Pipizella vandergooti Van Steenis & Lucas, 2011

New records. GEORGIA • 1♂ 1♀; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053865 = ZFMK-TIS-8005569, ZFMK-DIP-00053866 = ZFMK-TIS-8005577; • 1♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057831; • 2♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002725, ZFMK-TIS-8002726.

Genetics. Three specimens (a male and two females) were sequenced (MN622039, MN622040, MN622041) and their COI barcodes differ from 0% to 0.61%. This species was not present in BOLD systems or GenBank, and our sequences are identical (100% similarity) to COI sequences of specimens identified as *Pipizella pennina* (Goeldlin de Tiefenau, 1974) and *P. zeneggenensis*.

Distribution. Georgia and Turkey.

Remarks. We have assumed that the three collected females belong to this species based on the COI sequences and the co-occurrence with a male. Reported for Georgia for the first time.

Pipizella viduata (Linnaeus, 1758)

Reference. Peck (1988) as *Pipizella varipes* (Meigen, 1822); Speight (2018a).

Distribution. Europe, North Africa, Transcaucasia, European parts of Russia into Siberia.

Remarks. Thompson et al. (1982) synonymised *P. varipes* under *P. viduata*.

Pipizella virens (Fabricius, 1805)

Reference. Levitin (1962); Tóth (1986); Gudjabidze (2002) a *Pipizella virens* Fallen, 1817 [sic]; Barkalov and Mutin (2018).

New records. GEORGIA • 1♂ 1♀; L4, 18 Jun 2018, S. Bot leg.; • 1♂; L5, 18 Jun 2018, S. Bot leg.

Distribution. Palaearctic.

Platycheirus (*Platycheirus*) *albimanus* (Fabricius, 1781)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Platycheirus albimanus* (Fabricius, 1721) [sic].

New records. GEORGIA • 1♂; L2, 16 Jun 2018, S. Bot leg.; • 2♀; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L5, 18 Jun 2018, S. Bot leg.; • 1♂ 2♀; L6, 19 Jun 2018, S. Bot leg.; • 1♀; L11, 23 Jun 2018, S. Bot leg.; • 1♂; L12, 24 Jun 2018, S. Bot leg.; • 2♂; L16, 27 Jun 2018, S. Bot leg.; • 1♂ 1♀; L19, 29 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul

2018, S. Bot leg.; • 2♂; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054027 = ZFMK-TIS-8001013, ZFMK-DIP-00053966 = ZFMK-TIS-8005527; • 2♀; L33, 23 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053967 = ZFMK-TIS-8005532, ZFMK-DIP-00053968; • 1♀; L46, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057331; • 1♀; L54, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057332; • 3♀; L55, 31 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057335, ZFMK-DIP-00057336, ZFMK-DIP-00057337; • 9♂ 2♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057320, ZFMK-DIP-00057321, ZFMK-DIP-00057322, ZFMK-DIP-00057323, ZFMK-DIP-00057324, ZFMK-DIP-00057325, ZFMK-DIP-00057326, ZFMK-DIP-00057327, ZFMK-DIP-00057328, ZFMK-DIP-00057329, ZFMK-DIP-00057330; • 2♀; L57, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057333, ZFMK-DIP-00057334; • 2♂ 1♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002720, ZFMK-TIS-8002721, ZFMK-TIS-8002722; • 2♂ 2♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4590, MTD-Dip-A-R-4591; • 1♂ 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4594, ZFMK-TIS-8002756.

Genetics. We were able to sequence six specimens (MN622042, MN622043, MN622044, MN622045, MN622046, MN622047), all with identical COI barcodes. In BOLD systems there are two BINs with specimens of *P. albimanus*: BOLD:AAL7898 comprises specimens from Europe and northeast North America; and BOLD:ABY4282 has specimens from northwest North America.

Distribution. Holarctic and Philippines.

Platycheirus (*Platycheirus*) *ambiguus* (Fallén, 1817)

Reference. Tóth (1986); Peck (1988).

Distribution. Palaearctic, but it needs reassessment.

Platycheirus (*Platycheirus*) *angustipes* Goeldlin de Tiefenau, 1974

New records. GEORGIA • 1♂ 1♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057338, ZFMK-DIP-00012138 = ZFMK-TIS-2556546.

Distribution. Inadequately known, but reported from mountains of Central Europe and Pyrenees.

Remarks. Reported for Georgia for the first time.

Platycheirus (*Platycheirus*) *clypeatus* (Meigen, 1822)

Reference. Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♀; L47, 25 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057342; • 4♂ 3♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057345, ZFMK-DIP-00057346, ZFMK-DIP-00057347, ZFMK-DIP-00057348, ZFMK-DIP-00057341, ZFMK-DIP-00057343, ZFMK-DIP-00057344.

Distribution. Holarctic.

Platycheirus (*Platycheirus*) *complicatus* (Becker, 1889)

New records. GEORGIA • 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.

Distribution. Central Europe, eastwards to Siberia and Japan.

Remarks. Reported for Georgia for the first time.

Platycheirus (*Platycheirus*) *discimanus* Loew, 1871

Reference. Peck (1988).

Distribution. Holarctic.

Platycheirus (*Platycheirus*) *fulviventris* (Macquart, 1829)

New records. GEORGIA • 1♀; L47, 25 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057350; • 1♂; L48, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057349.

Distribution. Palaearctic, but not in northern Africa.

Remarks. Reported for Georgia for the first time.

Platycheirus (*Pachysphyria*) *immaculatus* Ôhara, 1980

New records. GEORGIA • 2♀; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L4, 18 Jun 2018, S. Bot leg.

Distribution. Palaeractic, including Nepal, but not in the Iberian Peninsula or in northern Africa.

Remarks. Reported for Georgia for the first time.

Platycheirus (*Platycheirus*) *immarginatus* (Zetterstedt, 1849)

Reference. Peck (1988); Gudjabidze (2002) as *Platycheirus immarginatus* Zetterstendt, 1843 [sic].

Distribution. Needs reassessment.

Platycheirus (*Platycheirus*) *manicatus* (Meigen, 1822)

Reference. Peck (1988); Gudjabidze (2002) as *Platycheirus manicatus* Meigen, 1822 and as *Platycheirus maniceris* Meigen, 1822 [sic].

New records. GEORGIA • 1♂; L4, 18 Jun 2018, S. Bot leg.; • 1♂; L6, 19 Jun 2018, S. Bot leg.; • 1♀; L11, 23 Jun 2018, S. Bot leg.; • 1♀; L11, 29 Jun 2018, S. Bot leg.; • 1♂ 2♀; L12, 24 Jun 2018, S. Bot leg.; • 1♂; L14, 25 Jun 2018, S. Bot leg.; • 1♀; L16, 27 Jun 2018, S. Bot leg.; • 2♂; L17, 28 Jun 2018, S. Bot leg.; • 2♀; L19, 29 Jun 2018, S. Bot leg.; • 2♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057354, ZFMK-DIP-00057355; • 1♀; L54, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057356; • 3♀; L55, 31 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057352, ZFMK-DIP-00057353, ZFMK-DIP-00057357; • 1♂; L57, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057351.

Distribution. Palaearctic, Greenland, and Alaska.

Platycheirus (*Platycheirus*) *migriaulii* Stuke & Nielsen, 2002

Reference. Stuke and Nielsen (2002); Speight (2018a).

New records. GEORGIA • 1♂; L17, 28 Jun 2018, S. Bot leg.

Distribution. Georgia.

Platycheirus (*Platycheirus*) *nielseni* Vockeroth, 1990

New records. GEORGIA • 1♂; L15, 26 Jun 2018, S. Bot leg.; • 1♂ 2♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057378, ZFMK-DIP-00057379, ZFMK-DIP-00057380.

Distribution. Holarctic.

Remarks. Reported for Georgia for the first time.

Platycheirus (*Platycheirus*) *peltatus* (Meigen, 1822)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂; L19, 29 Jun 2018, S. Bot leg.

Distribution. Central and Northern Europe, eastwards to Siberia and Japan.

Platycheirus (*Platycheirus*) *podagratus* (Zetterstedt, 1838)

New records. GEORGIA • 1♂ 1♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057382, ZFMK-DIP-00057381.

Distribution. Holarctic.
Remarks. Reported for Georgia for the first time.

Platycheirus (*Platycheirus*) *similis* Barkalov & Nielsen, 2007

New records. GEORGIA • 1♂; L11, 23 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.
Distribution. Northern Caucasus.
Remarks. Reported for Georgia for the first time.

Platycheirus (*Platycheirus*) *scutatus* (Meigen, 1822)

Reference. Peck (1988).
New records. GEORGIA • 1♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057383.
Distribution. Palaearctic and western North America.
Remarks. Females of the *scutatus* species group are difficult to identify (Doczkal et al. 2002; but see Van Steenis and Goeldlin de Tiefenau 1998), and this record might need verification.

Platycheirus (*Platycheirus*) *tarsalis* (Schummel, 1837)

New records. GEORGIA • 2♂ 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L6, 19 Jun 2018, S. Bot leg.; • 1♂; L8, 20 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.; • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 1♀; L20, 1 Jul 2018, S. Bot leg.; • 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054049 = ZFMK-TIS-8000950.
Genetics. We sequenced one specimen (MN622048), which belongs to the BIN BOLD:ABZ5039. The BIN has a maximum distance between specimens of 0.46% (P-distance) and 1.8% (p-distance) with the nearest neighbour in BOLD systems, *Platycheirus manicatus* (BOLD:ACF0224).
Distribution. Palaearctic, but not in northern Africa.
Remarks. Reported for Georgia for the first time.

Pocota personata (Harris, 1779)

Reference. Peck (1988); Speight (2018a).
New records. GEORGIA • 1♂; L19, 29 Jun 2018, S. Bot leg.
Distribution. Europe, European parts of Russia, and Transcaucasia.

Remarks. The year of publication for this species is a convention. The original work by Harris (1776–1780) was published in five 'decads' or parts. Peck (1988) used the conventional date of 1780? with a question mark for decads 3, 4, and 5 based on Lisney (1960). Evenhuis (1997: page 343) established that the decad 3, where *Musca personatus* is described on page 79, was dated as 1779 based on the latest date of the plates. Thus, the year of publication should be 1779.

Psilota anthracina Meigen, 1822

Reference. Peck (1988).

Distribution. Europe, European parts of Russia and Transcaucasia, but needs reassessment.

Pyrophaena rosarum (Fabricius, 1787)

Reference. Tóth (1986); Peck (1988).

Distribution. Holarctic, but not in northern Africa.

Rhingia campestris Meigen, 1822

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002); Speight (2018a).

New records. GEORGIA • 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♂ 2♀; L15, 26 Jun 2018, S. Bot leg.; • 1♀; L33, 23 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054112 = ZFMK-TIS-8000988; • 1♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058253.

Genetics. One specimen was successfully sequenced (MN622049), and its BIN is BOLD:ABZ3049. Our sequence is exactly the same as other sequences of *R. campestris* previously published.

Distribution. Palaearctic.

Rhingia rostrata (Linnaeus, 1758)

Reference. Levitin (1962); Tóth (1986); Peck (1988); Gudjabidze (2002) as *Rhingia rostrata* Linnaeus, 1758 [sic]; Speight (2018a).

New records. GEORGIA • 1♂ 1♀; L1, 15 Jun 2018, S. Bot leg.; • 1♀; L39, 23–26 Jul 2018, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054113 = ZFMK-TIS-8000879; • 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002734; • 1♂; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002770, MTD-Dip-A-R-4574.

Genetics. We sequenced three specimens (MN622050, MN622051, MN622052) and their COI barcodes differ 0.15–0.3%. The BIN for these specimens is BOLD:AAV1208 and its nearest neighbour in BOLD systems is *Rhingia nasica* Say, 1823(BOLD:AAG4646; 4.8% p-distance).

Distribution. Europe, Transcaucasia, and European parts of Russia into Siberia.

Riponnensia longicornis (Loew, 1843)

Reference. Peck (1988) as *Orthonevra longicornis* (Loew, 1843).

Distribution. Mediterranean Basin.

Riponnensia splendens (Meigen, 1822)

Reference. Peck (1988) as *Orthonevra splendens* (Meigen, 1822); Gudjabidze (2002) as *Orthonevra splendens* Meigen, 1822 [sic]; Speight (2018a).

Distribution. Western Palaearctic.

Rohdendorfia alpina Sack, 1938

Reference. Barkalov and Mutin (2018); Speight (2018a); Mengual and Barkalov (2019).

Distribution. Mountains of Central Europe, Caucasus, and Altai.

Remarks. Barkalov and Mutin (2018) and Speight (2018a) listed this species from Transcaucasia, but it was never reported previously from Georgia to our knowledge. Mengual and Barkalov (2019) reported it for Georgia for the first time.

Scaeva (*Scaeva*) *albomaculata* (Macquart, 1842)

Reference. Kuznetzov (1985); Tóth (1986) as *Scaeva albomaculata* Macquart, 1842 [sic]; Peck (1988); Gudjabidze (2002) as *Scaeva albomaculata* Macquart, 1827 [sic]; Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♀; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054100 = ZFMK-TIS-8000994.

Genetics. One specimen was sequenced (MN622053) and its COI barcode is very similar (98.73–99.69% similarity) to other sequences in BOLD of *S. albomacualta*. The intraspecific p-distance overlaps the interspecific p-distance with *Scaeva pyrastri* (Linnaeus, 1758) (98.62–98.81% similarity) and both species share the same BIN, BOLD:AAF2374.

Distribution. Palaearctic, but not in Central and Northern Europe.

Scaeva (*Scaeva*) *pyrastri* (Linnaeus, 1758)

Reference. Radde (1899) as *Syrphus pyraster* L.; Levitin (1962); Kuznetzov (1985); Peck (1988); Gudjabidze (2002) as *Scaeva pyrastri* Linnaeus, 1758 [sic].

New records. GEORGIA • *1; L1, 16 Jun 2018, S. Bot obs.; • *1; L18, 28 Jun 2018, S. Bot obs.; • 1♀; L20, 1 Jul 2018, S. Bot leg.; • 1♀; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053852 = ZFMK-TIS-8005595; • 1♀; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053853 = ZFMK-TIS-8005601; • 1♀; L57, 3 Aug 2001 J.-H. Stuke leg.; ZFMK-DIP-00058247.

Genetics. Two specimens were sequenced (MN622054, MN622055) and their COI sequences differ 0.15%. See Genetics under *Scaeva albomaculata*.

Distribution. Palaearctic, India, and western North America.

Scaeva (*Semiscaeva*) *dignota* (Rondani, 1857)

Reference. Kuznetzov (1985) as *Scaeva odessana* (Paramonov, 1924); Peck (1988).

New records. GEORGIA • 1♀; L1, 16 Jun 2018, S. Bot leg.; • 1♂ 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L8, 20 Jun 2018, S. Bot leg.; • 1♀; L16, 27 Jun 2018, S. Bot leg.; • 8♂ 3♀; L17, 28 Jun 2018, S. Bot leg.; • *50♂; L17, 28 Jun 2018, S. Bot obs.; • 1♀; L51, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057873.

Distribution. Western Palaearctic.

Remarks. See remarks under *Scaeva* (*Semiscaeva*) *lagodechiensis* Kuznetzov, 1985. Dušek and Láska (1985) synonymised *Catabomba odessana* Paramonov, 1924 under *S. dignota*.

Scaeva (*Semiscaeva*) *lagodechiensis* Kuznetzov, 1985

Reference. Kuznetzov (1985); Barkalov and Mutin (2018).

Distribution. Georgia.

Remarks. Kuznetzov (1985) described this species based on three males from Lagodekhi (Georgia). This species is very similar to *Scaeva dignota*. The differences with *S. dignota* given in Kuznetzov (1985) are subtle and sometimes they also apply to individuals identified in this paper as *S. dignota*. More research is needed but *S. lagodechiensis* might be a junior synonym of *S. dignota*.

Scaeva (*Semiscaeva*) *opimia* (Walker, 1852)

Reference. Kuznetzov (1987) as *Scaeva lunata* (Wiedemann, 1830); Peck (1988) as *Scaeva lunata* (Wiedemann, 1830).

Distribution. Transcaucasia, Afghanistan, China, and Indomalayan Region.

Remarks. Mengual et al. (2018) explained that *Scaeva opimia* (Walker, 1852) is the right name to apply to this taxon, not *Scaeva lunata*.

Scaeva (*Semiscaeva*) *selenitica* (Meigen, 1822)

Reference. Levitin (1962); Kuznetzov (1985) as *Scaeva selenitica* and *Scaeva rossica* Kuznetzov, 1985; Tóth (1986); Peck (1988); Gudjabidze (2002) as *Scaeva selenitika* Meigen, 1822 [sic].

New records. GEORGIA • 1♂; L4, 18 Jun 2018, S. Bot leg.; • 1♀; L8, 20 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot leg.

Distribution. Palaearctic.

Sericomyia bequaerti (Hervé-Bazin, 1913)

Reference. Peck (1988) as *Arctophila bequaerti* Hervé-Bazin, 1913; Gudjabidze (2002) as *Arctophila bequarti* Have-Basin, 1914 [sic]; Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♀; L19, 29 Jun 2018, S.Bot leg.

Distribution. Balkan Peninsula, Turkey, south-western Russia, Ukraine, and Transcaucasia.

Remarks. Skevington and Thompson (2012) synonymised *Arctophila* Schiner, 1860 and *Conosyrphus* Frey, 1915 under *Sericomyia* Meigen, 1803.

Sericomyia bombiformis (Fallén, 1810)

Reference. Peck (1988) as *Arctophila bombiformis* (Fallén, 1810); Gudjabidze (2002) as *Arctophila bomboformis* (Fallen, 1817) [sic].

Distribution. Europe, Turkey, and Georgia.

Sericomyia silentis (Harris, 1778)

Reference. Levitin (1962) as *Cinxia borealis ciscaucasica* Stackelberg, 1927; Peck (1988) as *Sericomyia silentis* and *Sericomyia silentis ciscaucasica* (Stackelberg, 1927); Gudjabidze (2002) as *Sericomyia borealis ciscausica* Shtackelberg, 1976 [sic]; Speight (2018a).

New records. GEORGIA • *1♂; L15, 26 Jun 2018, S. Bot obs.; • 1♀; L15, 26 Jun 2018, S. Bot leg.; • 1♀; L16, 27 Jun 2018, S. Bot leg.

Distribution. Palaearctic, but not in northern Africa.

Remarks. The year of publication for this species is a convention. Peck (1988) used the conventional dates based on Lisney (1960): 1776 for decad 1, 1776? for decad

2, and 1780? for decads 3, 4, and 5. Evenhuis (1997: page 342) found that the decad 2, where *Musca silentis* is described on page 59, was dated as 1778 in the "*Discours préliminaires*" to the *Encyclopédie méthodique par ordre des matières – Insectes*. Thus, the year of publication should be 1778.

Sericomyia volucellina Portschinsky, 1881

Reference. Peck (1988) as *Conosyrphus volucellinus* (Portschinsky, 1881); Gudjabidze (2002) as *Conosyrphus volucelluns* Portshinsky, 1881 [sic] and as *Conosyrphus volucellinus* Portshinski, 1881 [sic]; Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♂; L11, 29 Jun 2018, S.Bot leg.; • 1♂; L57, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058000.

Distribution. Transcaucasia and Turkey.

Spazigaster ambulans (Fabricius, 1798)

Reference. Peck (1988); Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♀; L4, 18 Jun 2018, S. Bot leg.; • 1♀; L11, 29 Jun 2018, S. Bot leg.; • 8♂; L12, 24 Jun 2018, S. Bot leg.; • 1♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054102 = ZFMK-TIS-8000877; • 4♂ 9♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057433, ZFMK-DIP-00057434, ZFMK-DIP-00057435, ZFMK-DIP-00057445, ZFMK-DIP-00057436, ZFMK-DIP-00057437, ZFMK-DIP-00057438, ZFMK-DIP-00057439, ZFMK-DIP-00057440, ZFMK-DIP-00057441, ZFMK-DIP-00057442, ZFMK-DIP-00057443, ZFMK-DIP-00057444.

Genetics. We sequenced one specimen (MN622056), and its COI barcode is identical as other sequenced specimens listed in BOLD and very similar (> 98.62% similarity) to other non-public and published sequences of this species. The BIN for this taxon is BOLD:AAZ5247.

Distribution. Mountains of Central Europe, Balkans, Carpathians, Turkey and the Caucasus Region.

Sphaerophoria (*Sphaerophoria*) *bengalensis* Macquart, 1842

Reference. Bańkowska (1964) as *Sphaerophoria turkmenica* Bańkowska, 1964; Peck (1988) as *Sphaerophoria turkmenica*; Gudjabidze (2002) as *Sphaerophoria turkmenica* Bankovska, 1964 [sic]; Speight (2018a) listed it only from Armenia and Azerbaijan.

New records. GEORGIA • 1♂; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053867 = ZFMK-TIS-8005599; • 1♂; L50, 4 Aug 2001, J.-H. Stuke

leg.; ZFMK-DIP-00058250; • 2♂; L59, 28 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058248, ZFMK-DIP-00058249.

Genetics. We sequenced one specimen (MN622058) and its COI barcode is very similar (99.85%) with a sequence of *Sphaerophoria scripta* (Linnaeus, 1758).

Distribution. Middle East, Arabian Peninsula, Transcaucasia, Central and Eastern Palaearctic, Pakistan, and northern India.

Sphaerophoria (*Sphaerophoria*) *boreoalpina* Goeldlin de Tiefenau, 1989

New records. GEORGIA • 1♂; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057908.

Distribution. Northern Europe, Alps, and Altai Mountains.

Remarks. Reported for Georgia for the first time.

Sphaerophoria (*Sphaerophoria*) *chongjini* Bańkowska, 1964

New records. GEORGIA • 2♂; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054057 = ZFMK-TIS-8000874, ZFMK-DIP-00053868 = ZFMK-TIS-8005598; • 2♂; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002779, ZFMK-DIP-00061315; • 2♂; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4584.

Genetics. Three male specimens (MN622059, MN622060, MN622061) were sequenced and they differ very little (0–0.15%). Our COI barcodes are identical to another specimen of *S. chongjini* in BOLD systems, but also has 100% similarity with a barcode of *Sphaerophoria taeniata* (Meigen, 1822).

Distribution. Northern and Central Europe, Ukraine, and Russia into Japan.

Remarks. Reported for Georgia for the first time.

Sphaerophoria (*Sphaerophoria*) *infuscata* Goeldlin de Tiefenau, 1974

New records. GEORGIA • 2♂; L52, 30 Jul 2001 J.-H. Stuke leg.; ZFMK-DIP-00057909, ZFMK-DIP-00057910.

Distribution. Central Europe, Alps, and Pyrenees.

Remarks. Reported for Georgia for the first time.

Sphaerophoria (*Sphaerophoria*) *interrupta* (Fabricius, 1805)

Reference. Levitin (1962) as *Sphaerophoria menthastri* L.; Tóth (1986) as *Sphaerophoria menthastri* (Linnaeus, 1758); Peck (1988) as *S. menthastri*; Gudjabidze (2002) as

Sphaerophoria mentastri Linnaeus, 1758 [sic] and *Sphaerophoria picta* Meigen, 1882 [sic]; Speight (2018a).

Distribution. Europe, Transcaucasia, and European parts of Russia into Siberia.

Remarks. Goeldlin de Tiefenau (1989) explained that the name *menthastri* Linnaeus cannot be applied to this taxon and reinstated the name *interrupta* Fabricius for *menthastri* sensu auctores nec L. Peck (1988) listed *Syrphus pictus* Meigen, 1822 as synonym of *Sphaerophoria menthastri* (Linnaeus, 1758).

Sphaerophoria (*Sphaerophoria*) *laurae* Goeldlin de Tiefenau, 1989

Reference. Speight (2018a) listed it from the Caucasus.

Distribution. Northern Europe, Alps, Pyrenees, Caucasus, and Altai Mountains.

Sphaerophoria (*Sphaerophoria*) *philanthus* (Meigen, 1822)

Reference. Peck (1988); Gudjabidze (2002) as *Sphaerophoria sarmatica* Bankovska, 1964 [sic] and as and *Sphaerophoria dubia* Zetterstendt, 1849 [sic].

Distribution. Needs reassessment, but known from Northern and Central Europe and North America.

Remarks. *Sphaerophoria sarmatica* Bańkowska, 1964 and and *Sphaerophoria dubia* Zetterstedt, 1849 were listed as synonyms of *S. philanthus* by Peck (1988).

Sphaerophoria (*Sphaerophoria*) *rueppellii* (Wiedemann, 1830)

Reference. Bańkowska (1964); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂; L48, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057916; • 1♀; L50, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057918; • 1♂; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057915; • 1♀; L59, 28 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057919; • 1♂; L63, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057914; • 3♂ 1♀; L67, 29 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057911, ZFMK-DIP-00057912, ZFMK-DIP-00057913, ZFMK-DIP-00057917; • 1♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002777.

Genetics. We sequenced a single specimen (MN622062) and its COI barcode was identical to other published sequences of the same species, but also 100% similar to sequences of *Sphaerophoria scripta* (Linnaeus, 1758).

Distribution. Palaearctic and Afrotropical Region.

***Sphaerophoria* (*Sphaerophoria*) *scripta* (Linnaeus, 1758)**

Reference. Levitin (1962); Tóth (1986); Peck (1988); Gudjabidze (2002) as *S. scripta*.

New records. GEORGIA • 1♂; L1, 15 Jun 2018, S. Bot leg.; • *20; L1, 16 Jun 2018, S. Bot obs.; • 2♂ 1♀; L2, 16 Jun 2018, S. Bot leg.; • 1♂; L4, 18 Jun 2018, S. Bot leg.; • *15; L8, 20 Jun 2018, S. Bot obs.; • 2♂ *20; L10, 22 Jun 2018, S. Bot leg. & obs.; • *10; L11, 23 Jun 2018, S. Bot obs.; • 2♀; L15, 26 Jun 2018, S. Bot leg.; • *10; L19, 29 Jun 2018, S. Bot obs.; • 1♂; L20, 1 Jul 2018, S. Bot leg.; • 1♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054073 = ZFMK-TIS-8000970; • 2♀; L26, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054069, ZFMK-DIP-00054077; • 1♂; L27, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053777; • 1♀; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054072 = ZFMK-TIS-8000979; • 1♂ 1♀; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053778 = ZFMK-TIS-8005603, ZFMK-DIP-00054066 = ZFMK-TIS-8001010; • 4♂ 1♀; L30, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053779, ZFMK-DIP-00053780, ZFMK-DIP-00053781, ZFMK-DIP-00053782, ZFMK-DIP-00053783; • 1♀; L31, 20 Jul 2018, J. Astrin leg.; ZFMK-TIS-8000113; • 3♂ 1♀; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054058, ZFMK-DIP-00054061, ZFMK-DIP-00054062, ZFMK-DIP-00054078; • 2♀; L32, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054065 = ZFMK-TIS-8001007, ZFMK-DIP-00054070 = ZFMK-TIS-8001005; • 2♂ 1♀; L32, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053770, ZFMK-DIP-00053771, ZFMK-DIP-00053784; • 4♂ 1♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054064, ZFMK-DIP-00053772, ZFMK-DIP-00053773, ZFMK-DIP-00053774, ZFMK-DIP-00054068; • 1♂; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053775; • 2♂; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054059, ZFMK-DIP-00053776; • 1♂ 2♀; L37, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054060 = ZFMK-TIS-8004102, ZFMK-DIP-00054071 = ZFMK-TIS-8004112, ZFMK-DIP-00054076 = ZFMK-TIS-8004103; • 2♂; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054063, ZFMK-DIP-00053769; • 1♂; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053768 = ZFMK-TIS-8005597; • 3♀; L39, 23–26 Jul 2018, malaise trap, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054067, ZFMK-DIP-00054074, ZFMK-DIP-00054075; • 2♂; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4536; MTD-Dip-A-R-4543; • 2♂; L42, 25 Jul 2018, B. Rulik leg.; MTD-Dip-A-R-4546, ZFMK-TIS-8002678; • 2♂; L47, 25 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058252, ZFMK-DIP-00057907; • 1♂; L48, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057904; • 1♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058251; • 1♂; L51, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057887; • 1♂; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057893; • 1♂; L56, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057902; • 3♂; L59, 28 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057884, ZFMK-DIP-00057889, ZFMK-DIP-00057890; • 2♂; L60, 26 Jul 2001, J.-H. Stuke

leg.; ZFMK-DIP-00057892, ZFMK-DIP-00057905; • 9♂; L63, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057883, ZFMK-DIP-00057885, ZFMK-DIP-00057891, ZFMK-DIP-00057894, ZFMK-DIP-00057896, ZFMK-DIP-00057897, ZFMK-DIP-00057898, ZFMK-DIP-00057899, ZFMK-DIP-00057900; • 1♂; L64, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057901; • 1♂; L65, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057888; • 3♂; L67, 29 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057886, ZFMK-DIP-00057903, ZFMK-DIP-00057906; • 1♂; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4503; • 4♂ 1♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002707, ZFMK-TIS-8002708, ZFMK-DIP-00061316, ZFMK-DIP-00061317, ZFMK-TIS-8002709; • 2♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4588; • 1♂ 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002747, ZFMK-TIS-8002744; • 3♂; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002774, ZFMK-TIS-8002775, ZFMK-DIP-00061314; • 2♂;L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4559.

Genetics. We sequenced ten specimens of this species (MN622057, MN622063, MN622064, MN622065, MN622066, MN622067, MN622068, MN622069, MN622070, MN622071), and their COI sequences differ 0–0.83%. The intraspecific distance in this genus overlaps with the interspecific distance of the COI barcodes. As a prove, the BIN BOLD:AAA7374 has specimens from more than 30 different species and it suggests that the COI sequence alone is not useful to separate *Sphaerophoria* species.

Distribution. Palaearctic, Greenland, Kashmir, and Nepal.

Sphegina (*Asiosphegina*) *sibirica* Stackelberg, 1953

Reference. Tóth (1986); Peck (1988); Speight (2018a).

New records. GEORGIA • 2♂; L10, 22 Jun 2018, S. Bot leg.; • 1♂; L16, 27 Jun 2018, S. Bot leg.; • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 2♂; L21, 3 Jul 2018, S. Bot leg.

Distribution. Northern and Central Europe, Transcaucasia, European parts of Russia to Far East.

Sphegina (*Sphegina*) *alaoglui* Hayat, 1997

New records. GEORGIA • 2♂; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.; 1♂ 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002760, ZFMK-TIS-8002810; • 1♂; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4561.

Genetics. A male and a female were sequenced (MN622072, MN622073) and their COI barcodes are 99.696% similar. This species was not registered in BOLD

systems or GenBank, but our COI sequences are very similar to sequences of *Sphegina elegans* Schummel, 1843 (96.31–96.64% similarity).

Distribution. Turkey and Northern Caucasus.

Remarks. Species similar to *Sphegina* (*Sphegina*) *elegans* Schummel, 1843. Mutin (2001a) synonymised *Sphegina pontica* Mutin, 1998 under *S. alaoglui*. Reported for Georgia for the first time.

Sphegina (*Sphegina*) *clunipes* (Fallén, 1816)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 3♂; L1, 16 Jun 2018, S. Bot leg.; • 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L5, 18 Jun 2018, S. Bot leg.; • 1♂; L6, 19 Jun 2018, S. Bot leg.

Distribution. Palaearctic, but not in northern Africa.

Sphegina (*Sphegina*) *elegans* Schummel, 1843

Reference. Peck (1988) as *Sphegina kimakowiczi* (Strobl, 1897); Speight (2018a).

Distribution. Europe, European parts of Russia, Turkey, and Caucasus Mountains.

Remarks. Thompson and Torp (1986) synonymised *S. kimakowiczi* under *S. elegans*.

Sphegina (*Sphegina*) *obscurifacies* Stackelberg, 1956

Reference. Speight (2018a) listed it from the Caucasus.

Distribution. Northern Europe, Caucasus Region, Russia and Korea.

Remarks. See Speight (2018a) and Mutin (2001b) for the common confusion of this taxon with *Sphegina* (*Sphegina*) *claviventris* Stackelberg, 1956.

Sphegina (*Sphegina*) *verecunda* Collin, 1937

Reference. Peck (1988); Gudjabidze (2002) as *Sphegina verecunda* Collin, 1931 [sic].

Distribution. Central Europe and Transcaucasia.

Sphiximorpha subsessilis (Illiger in Rossi, 1807)

Reference. Peck (1988); Speight (2018a).

Distribution. Western Palaearctic.

Spilomyia diophthalma (Linnaeus, 1758)

Reference. Stackelberg (1958); Levitin (1962); Peck (1988); Gudjabidze (2002) as *Spilomyia diophtalma* Linnaeus, 1758 [sic]; Speight (2018a).

Distribution. Northern and Central Europe, Turkey, Transcaucasia, through Russia to Sakhalin.

Spilomyia manicata (Rondani, 1865)

Reference. Stackelberg (1958); Levitin (1962); Peck (1988); Van Steenis (2000); Gudjabidze (2002) as *Spilomyia manicata* Rondani, 1862 [sic]; Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♂; L37, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054101 = ZFMK-TIS-8004097.

Genetics. The collected male was sequenced (MN622074) and its COI barcode is identical to another sequence published in BOLD systems of *S. manicata* from Norway (Sample ID: NorSy408; BIN: BOLD:ACC9767).

Distribution. Europe, European parts of Russia, and Caucasus Region.

Spilomyia saltuum (Fabricius, 1794)

Reference. Stackelberg (1958); Peck (1988); Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♂; L64, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00012151 = ZFMK-TIS-2558698.

Distribution. Central Europe, Mediterranean Basin, and the Caucasus Region.

Spilomyia triangulata Van Steenis, 2000

Reference. Stackelberg (1958) as *Spilomyia digitata* (Rondani, 1865); Peck (1988) as *Spilomyia digitata*.

Distribution. Alps, North Macedonia, Greece, Turkey, and Transcaucasia.

Remarks. Van Steenis (2000) described this taxon from the eastern part of the Mediterranean Basin (with a record from France), and among the paratypes he listed material collected in Gelendzhik (Northern Caucasus); likely the same specimens that Stackelberg (1958) reported as *S. digitata* from Gelendzhik and, later on, Peck (1988) listed from Transcaucasia.

Syritta pipiens (Linnaeus, 1758)

Reference. Levitin (1962); Tóth (1986); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂; L2, 16 Jun 2018, S. Bot leg.; • 1♀; L3, 17 Jun 2018, S. Bot leg.; • 1♂ 1♀; L11, 23 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.; • *2; L22, 3 Jul 2018, S. Bot obs.; • 1♂; L23, 5 Jul 2018, S. Bot leg.; • 2♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053849 = ZFMK-TIS-8005542, ZFMK-DIP-00054110; • 3♂; L39, 23–26 Jul 2018, X. Mengual, M. Espeland, B. Thormann leg.; ZFMK-DIP-00054108, ZFMK-DIP-00054109, ZFMK-DIP-00054111 = ZFMK-TIS-8000878; • 1♂; L46, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058059; • 1♂ 2♀; L48, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058057, ZFMK-DIP-00058063, ZFMK-DIP-00058065; • 1♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058060; • 7♂; L58, 27 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058048, ZFMK-DIP-00058049, ZFMK-DIP-00058050, ZFMK-DIP-00058051, ZFMK-DIP-00058052, ZFMK-DIP-00058053, ZFMK-DIP-00058054; • 2♂; L59, 28 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058055, ZFMK-DIP-00058056; • 1♀; L60, 26 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058066; • 1♂; L63, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058058; • 1♀; L66, 28 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058064; • 2♂; L68, 29 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058061, ZFMK-DIP-00058062; • 1♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002773.

Genetics. We sequenced three specimens (MN622075, MN622076, MN622077) and their COI barcodes differ 0.15–0.46%. The Barcode Index Number Registry lists a BIN for this taxon (BOLD:AAC6291) with an average 0.2% p-distance variation within the BIN (1.93% maximum p-distance) and 5.08% p-distance to the nearest neighbour, *Syritta fasciata* (Wiedemann, 1830) (BOLD:AAY9920).

Distribution. Most of Palaearctic, most of Nearctic, South America, and Indomalayan Region.

Syrphocheilosia claviventris (Strobl, 1910)

New records. GEORGIA • 2♂ 23♀; L52, 30 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057446, ZFMK-DIP-00057447, ZFMK-DIP-00057448, ZFMK-DIP-00057449, ZFMK-DIP-00057450, ZFMK-DIP-00057451, ZFMK-DIP-00057452, ZFMK-DIP-00057453, ZFMK-DIP-00057454, ZFMK-DIP-00057455, ZFMK-DIP-00057456, ZFMK-DIP-00057457, ZFMK-DIP-00057458, ZFMK-DIP-00057459, ZFMK-DIP-00057460, ZFMK-DIP-00057461, ZFMK-DIP-00057462, ZFMK-DIP-00057463, ZFMK-DIP-00057464, ZFMK-DIP-00057465, ZFMK-DIP-00057466, ZFMK-DIP-00057467, ZFMK-DIP-00057468, ZFMK-DIP-00057469, ZFMK-DIP-00057470.

Distribution. Alps, northern Turkey, and Transcaucasia.

Remarks. Peck (1988) and Barkalov and Mutin (2018) listed this species from Transcaucasia, and Speight (2018a) included the Caucasus in its distributional range, but it has never been previously reported from Georgia to our knowledge. Reported for Georgia for the first time.

Syrphus ribesii (Linnaeus, 1758)

Reference. Radde (1899); Levitin (1962); Tóth (1986); Peck (1988); Gudjabidze (2002) as *Syrphus ribessii* (Linnaeus, 1758) [sic].

New records. GEORGIA • 1♂; L1, 15 Jun 2018, S. Bot leg.; • 1♂; L1, 16 Jun 2018, S. Bot leg.; • 1♂; L3, 17 Jun 2018, S. Bot leg.; • 3♂; L4, 18 Jun 2018, S. Bot leg.; • 1♀; L8, 20 Jun 2018, S. Bot leg.; • 3♀; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L11, 29 Jun 2018, S. Bot leg.; • 1♀; L17, 28 Jun 2018, S. Bot leg.; • 1♂ 1♀; L19, 29 Jun 2018, S. Bot leg.; • 1♂; L20, 1 Jul 2018, S. Bot leg.; • *5; L21, 1 Jul 2018, S. Bot obs.; • 1♂; L21, 3 Jul 2018, S. Bot leg.; • 2♂ 4♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053829, ZFMK-DIP-00053830, ZFMK-DIP-00054029 = ZFMK-TIS-8000962, ZFMK-DIP-00053831 = ZFMK-TIS-8005590, ZFMK-DIP-00053832, ZFMK-DIP-00054033 = ZFMK-TIS-8000968; • 2♀; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053838, ZFMK-DIP-00054031 = ZFMK-TIS-8000978; • 1♂; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053828; • 1♂; L31, 21 Jul 2018, J. Astrin leg.; ZFMK-TIS-8000144; • 1♀; L31, 17–29 Jul 2018, B. Wipfler leg.; ZFMK-DIP-00054209; • 2♂; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054037, ZFMK-DIP-00054038; • 1♂ 2♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053824, ZFMK-DIP-00053837, ZFMK-DIP-00053839 = ZFMK-TIS-8005583; • 3♀; L33, 23 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054030, ZFMK-DIP-00054036, ZFMK-DIP-00054028 = ZFMK-TIS-8000985; • 5♂; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053823, ZFMK-DIP-00053825, ZFMK-DIP-00053826, ZFMK-DIP-00053827 = ZFMK-TIS-8005582, ZFMK-DIP-00054032 = ZFMK-TIS-8000993; • 1♂; L35, 24 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054034 = ZFMK-TIS-8003835; • 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053836; • 2♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053835, ZFMK-DIP-00054035 = ZFMK-TIS-8000999; • 1♂ 2♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053822, ZFMK-DIP-00053833, ZFMK-DIP-00053834; • 1♂ 1♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057930, ZFMK-DIP-00057920; • 14♂ 20♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002694, ZFMK-TIS-8002695, ZFMK-TIS-8002696, ZFMK-DIP-00061318, ZFMK-DIP-00061319, ZFMK-DIP-00061320, ZFMK-DIP-00061321, ZFMK-DIP-00061322, ZFMK-DIP-00061323, ZFMK-DIP-00061324, ZFMK-DIP-00061325, ZFMK-DIP-00061326, ZFMK-DIP-00061327, ZFMK-DIP-00061328, ZFMK-TIS-8002697, ZFMK-TIS-8002698, ZFMK-TIS-8002699, ZFMK-DIP-00061329, ZFMK-DIP-00061330, ZFMK-DIP-00061331, ZFMK-DIP-00061332, ZFMK-

DIP-00061333, ZFMK-DIP-00061334, ZFMK-DIP-00061335, ZFMK-DIP-00061336, ZFMK-DIP-00061337, ZFMK-DIP-00061338, ZFMK-DIP-00061339, ZFMK-DIP-00067220, ZFMK-DIP-00067221, ZFMK-DIP-00067222, ZFMK-DIP-00067223, ZFMK-DIP-00067224, ZFMK-DIP-00067225; • 8♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4550; • 15♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4551; • 3♂; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002736, ZFMK-DIP-00067226, ZFMK-DIP-00067227.

Genetics. Eleven specimens were sequenced (MN622078, MN622079, MN622080, MN622081, MN622082, MN622083, MN622084, MN622085, MN622086, MN622087, MN622088) and their COI barcodes differ 0–0.46%. The Barcode Index Number Registry lists a BIN for this taxon (BOLD:AAA4570) with an average p-distance variation of 1.29% within the BIN (4.23% max) and a p-distance of 3.02% to the nearest neighbour in BOLD systems, *Syrphus torvus* Osten Sacken, 1875 (BOLD:AAC6088).

Distribution. Holarctic.

Syrphus torvus Osten Sacken, 1875

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 2♂; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L4, 18 Jun 2018, S. Bot leg.; • 1♀; L5, 18 Jun 2018, S. Bot leg.; • 1♂; L7, 19 Jun 2018, S. Bot leg.; • 1♂ 2♀; L8, 20 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L19, 29 Jun 2018, S. Bot leg.; • 1♂ 1♀; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053813, ZFMK-DIP-00053819; • 3♂ 1♀; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053814 = ZFMK-TIS-8005589, ZFMK-DIP-00053815, ZFMK-DIP-00053816, ZFMK-DIP-00053821; • 2♂; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4526; • 2♂; L31, 20 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053817 = ZFMK-TIS-8005581, ZFMK-DIP-00054048; • 1♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053820, ZFMK-DIP-00054047 = ZFMK-TIS-8000987; • 1♀; L33, 23 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054047 = ZFMK-TIS-8000987; • 1♂; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053818; • 1♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057929; • 1♂ 1♀; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4501, ZFMK-TIS-8002664; • 10♂ 4♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002686, ZFMK-TIS-8002687, ZFMK-TIS-8002688, ZFMK-DIP-00067232, ZFMK-DIP-00067233, ZFMK-DIP-00067234, ZFMK-DIP-00067235, ZFMK-DIP-00067236, ZFMK-DIP-00067237, ZFMK-DIP-00067238, ZFMK-TIS-8002685, ZFMK-DIP-00067228, ZFMK-DIP-00067229, ZFMK-DIP-00067230; • 2♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4577; • 6♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4569.

Genetics. Five specimens were successfully sequenced (MN622089, MN622090, MN622091, MN622092, MN622093) and their COI barcodes differ 0–0.46%. The Barcode Index Number Registry lists one BIN for this taxon, BOLD:AAC6088.

Distribution. Palaearctic, Western North America, Taiwan, northern India, Nepal, and Thailand.

Syrphus vitripennis Megerle in Meigen, 1822

Reference. Levitin (1962) as *Syrphus vitripennis* Mg.; Tóth (1986) as *Syrphus vitripennis* Meigen, 1822; Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 2♂ 1♀; L2, 16 Jun 2018, S. Bot leg.; • 1♂ 2♀; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L12, 24 Jun 2018, S. Bot leg.; • 1♂; L20, 2 Jul 2018, S. Bot leg.; • 1♂ 6♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053848 = ZFMK-TIS-8005591, ZFMK-DIP-00053844, ZFMK-DIP-00053845, ZFMK-DIP-00053846, ZFMK-DIP-00053847, ZFMK-DIP-00054040 = ZFMK-TIS-8000965, ZFMK-DIP-00054043 = ZFMK-TIS-8000956; • 1♀; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053843 = ZFMK-TIS-8005585; • 1♀; L31, 21 Jul 2018, J. Astrin leg.; ZFMK-TIS-8000137; • 1♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4514; • 1♂; L34, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054045 = ZFMK-TIS-8000991; • 1♂; L35, 24 Jul 2018, prey of spider *Misumena vatia* Clerck, 1757 [ZFMK Ar20766], H.-J. Krammer leg.; ZFMK-DIP-00054211; • 1♂ 2♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054042, ZFMK-DIP-00054041, ZFMK-DIP-00053842; • 1♂; L37, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054046 = ZFMK-TIS-8004101; • 1♂ 2♀; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054039 = ZFMK-TIS-8001002, ZFMK-DIP-00053841, ZFMK-DIP-00054044 = ZFMK-TIS-8001000; • 1♂; L42, 25 Jul 2018, B. Rulik leg.; MTD-Dip-A-R-4549; • 1♂ 1♀; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4535, ZFMK-TIS-8002676; • 1♂ 1♀; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4544; • 1♀; L43, 18 Jul 2018, J. Astrin leg.; ZFMK-TIS-8000010; • 1♂; L46, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00057926; • 1♀; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057921; • 1♂; L50, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057923; • 1♀; L53, 1 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057927; • 3♂ 1♀; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00057922, ZFMK-DIP-00057924, ZFMK-DIP-00057925, ZFMK-DIP-00057928; • 2♂ 2♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002689, ZFMK-TIS-8002690, ZFMK-TIS-8002691, ZFMK-TIS-8002692; • 2♂; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4586; • 2♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4582; • 1♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002691; • 1♂; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002735; • 1♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002785.

Genetics. We sequenced 12 specimens (MN622094, MN622095, MN622096, MN622097, MN622098, MN622099, MN622100, MN622101, MN622102, MN622103, MN622104, MN622105) and their COI barcodes differ 0–0.23%. The Barcode Index Number Registry lists a BIN for this taxon (BOLD:AAB5577) with 0.74% p-distance variation within the BIN (2.57% max), but this BIN also has specimens identified as *Syrphus rectus* Osten Sacken, 1875.

Distribution. Palaearctic, Western North America, and Taiwan.

Remarks. The specimen ZFMK-TIS-8002691 fits the description of *Syrphus rectus* subsp. *bretoletensis* Goeldlin de Tiefenau, 1996 with possession of almost entirely yellow legs and wings with extensive areas bare of microtrichia. The taxonomic status of this subspecies is still in discussion, whether it is a valid subspecies of the North American *Syrphus rectus* Osten Sacken, 1875 or another species (Speight 2018a). Ssymank et al. (1999) tentatively synonymised *S. rectus bretolensis* with *S. vitripennis*, but without explanation. The obtained DNA barcode for ZFMK-TIS-8002691 is identical to the other COI sequences of *S. vitripennis*, and we consider this specimen as *S. vitripennis*.

Temnostoma bombylans (Fabricius, 1805)

Reference. Tóth (1986).

Distribution. Palaearctic.

Temnostoma meridionale Krivosheina & Mamayev, 1962

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002) as *Temnostoma meridionale* Krivocheina et Mamajev [sic]; Krivosheina (2005); Barkalov and Mutin (2018); Speight (2018a).

Distribution. Europe, European parts of Russia, and Transcaucasia.

Temnostoma vespiforme (Linnaeus, 1758)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002); Speight (2018a).

New records. GEORGIA • 1♂; L3, 17 Jun 2018, S. Bot leg.; • 1♀; L8, 20 Jun 2018, S. Bot leg.

Distribution. Needs reassessment; Holarctic.

Triglyphus primus Loew, 1840

Reference. Speight (2018a).

Distribution. Europe, Russia, Transcaucasia, and Korea.

Tropidia scita (Harris, 1778)

Reference. Peck (1988); Speight (2018a).

Distribution. Palaearctic, but not in northern Africa.

Remarks. The year of publication for this species is a convention. Peck (1988) used the conventional dates based on Lisney (1960): 1776 for decad 1, 1776? for decad 2, and 1780? for decads 3, 4, and 5. Evenhuis (1997: page 342) found that the decad 2, where *Musca scitus* is described on page 41, was dated as 1778 in the "*Discours préliminaires*" to the *Encyclopédie méthodique par ordre des matières – Insectes*. Thus, the year of publication should be 1778.

Volucella bombylans (Linnaeus 1758)

Reference. Portschinsky (1877); Radde (1899) as *Volucella bombylans* var. *plumata* (De Geer, 1776) and as *Volucella bombylans* var. *caucasica* Portschinsky, 1877; Peck (1988); Gudjabidze (2002) as *Volucella bombylans* Zetterstendt, 1843 [sic]; Speight (2018a).

New records. GEORGIA • 1♂ 1♀ *1 var. *plumata*; L3, 17 Jun 2018, S. Bot leg. & obs.; • 1♂ (abdomen almost completely white haired); L4, 18 Jun 2018, S. Bot leg.; • 1♀ var. *plumata*; L4, 18 Jun 2018, S. Bot leg.; • 1♂ *30 var. *plumata*; L6, 19 Jun 2018, S. Bot leg.; • 1♂ 1♀ var. *plumata*; L10, 22 Jun 2018, S. Bot leg.; • 1♀ var. *plumata*; L15, 26 Jun 2018, S. Bot leg.; • 1♂ 1♀ var. *haemorrhoidalis*; L16, 27 Jun 2018, S. Bot leg.; • 1♂ *20 var. *plumata*; L19, 29 Jun 2018, S. Bot leg.; • *10 var. *plumata*; L21, 1 Jul 2018, S. Bot obs.; • 1♂; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053656 = ZFMK-TIS-8005539; • 3♂ 5♀; L33, 22 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053657, ZFMK-DIP-00053660, ZFMK-DIP-00053971 = ZFMK-TIS-8003426, ZFMK-DIP-00053658, ZFMK-DIP-00053659, ZFMK-DIP-00053664 = ZFMK-TIS-8005547, ZFMK-DIP-00053972 = ZFMK-TIS-8003427, ZFMK-DIP-00053973 = ZFMK-TIS-8003435; • 3♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053661, ZFMK-DIP-00053662, ZFMK-DIP-00053970 = ZFMK-TIS-8003450; • 1♂; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053663; • 1♂; L57, 2 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058270; • 1♂; L57, 3 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058269; • 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002727.

Genetics. Three specimens were sequenced (MN622106, MN622107, MN622108) with identical COI barcode. The Barcode Index Number Registry lists a BIN for this taxon (BOLD:AAB8627) with 0.96% p-distance variation within the BIN members (3.1% max) and 5.17% p-distance to the nearest neighbour, *Volucella inanis* (Linnaeus 1758) (BOLD:AAZ4733). The BIN for *V. bombylans* also has other species, indicating an overlap between intra- and interspecific distances.

Distribution. Holarctic.

Volucella inanis (Linnaeus 1758)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂; L29, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053654 = ZFMK-TIS-8005538; • 1♂; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053655 = ZFMK-TIS-8005546; • 1♂; L49, 4 Aug 2001, J.-H. Stuke leg.; ZFMK-DIP-00058082.

Genetics. We sequenced two specimens (MN622109, MN622110) and their COI barcode were identical. The Barcode Index Number Registry lists a BIN for this taxon (BOLD:AAZ4733) with an average p-distance variation of 0.04% within the BIN members (0.31% max).

Distribution. Palaearctic.

Volucella inflata (Fabricius, 1794)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002) as *Volucella inflata* (Fallen, 1817) [sic]; Speight (2018a).

Distribution. Europe, European parts of Russia, and Transcaucasia.

Volucella pellucens (Linnaeus, 1758)

Reference. Levitin (1962); Peck (1988); Gudjabidze (2002); Speight (2018a).

New records. GEORGIA • *1♂; L1, 16 Jun 2018, S. Bot obs.; • *1♂; L8, 20 Jun 2018, S. Bot obs.; • 1♂ *1♂; L16, 27 Jun 2018, S. Bot leg. & obs.; • 1♂; L20, 30 Jun 2018, S. Bot leg.; • 1♂; L28, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053667; • 1♂ 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053668 = ZFMK-TIS-8005541, ZFMK-DIP-00053974 = ZFMK-TIS-8003451; • 3♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053669, ZFMK-DIP-00053670, ZFMK-DIP-00053671; • 1♀; L37, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054052 = ZFMK-TIS-8004115; • 1♀; L37, 25 Jul 2018, J. Thormann leg.; ZFMK-DIP-00054050 = ZFMK-TIS-8004077; • 2♀; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053666 = ZFMK-TIS-8005548, ZFMK-DIP-00054051 = ZFMK-TIS-8001003; • 1♀; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4532.

Genetics. A single specimen was successfully sequenced (MN622111). The Barcode Index Number Registry lists a BIN for this taxon (BOLD:AAH7775) with an average p-distance of 0.04% within the BIN (0.43% max) and a p-distance of 2.31% to the nearest neighbour, *Volucella zonaria* (Poda, 1761) (BOLD:AAH7785).

Distribution. Palaearctic and Indomalayan Region.

Volucella zonaria (Poda, 1761)

Reference. Radde (1899); Levitin (1962); Peck (1988); Gudjabidze (2002).

New records. GEORGIA • 1♂; L21, 2 Jul 2018, S. Bot leg.; • *1♂; L22, 3 Jul 2018, S. Bot obs.; • 1♂; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053665 = ZFMK-TIS-8005540; • 1♂ 1♀; L38, 25 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054053 = ZFMK-TIS-8004232, ZFMK-DIP-00054054 = ZFMK-TIS-8004231; • 1♀; L51, 24 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058080; • 1♀; L64, 23 Jul 2001, J.-H. Stuke leg.; ZFMK-DIP-00058081; • 1♂; L42, 25 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4533.

Genetics. The two specimens sequenced (MN622112, MN622113) have identical COI barcode. The Barcode Index Number Registry lists a BIN for this taxon (BOLD:AAH7785) with no variation within the BIN members and a p-distance of 2.31% with the nearest neighbour, *Volucella pellucens* (BOLD:AAH7775).

Distribution. Palaearctic, but not in Northern Europe.

Xanthandrus (*Xanthandrus*) *comtus* (Harris, 1778)

Reference. Levitin (1962) as *Xanthandrus comptus* Harr. [sic]; Tóth (1986); Peck (1988); Gudjabidze (2002) as *Xanthandrus compus* Harris, 1776 [sic]; Speight (2018a).

New records. GEORGIA • 1♂; L10, 22 Jun 2018, S. Bot leg.; • 1♀; L11, 29 Jun 2018, S. Bot leg.; • 2♀; L15, 26 Jun 2018, S. Bot leg.; • 1♀; L16, 27 Jun 2018, S. Bot leg.; • 1♂; L19, 29 Jun 2018, S. Bot leg.; • 1♂ *4; L20, 1 Jul 2018, S. Bot leg.; • 1♀; L20, 2 Jul 2018, S. Bot leg.; • 6♂; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053677, ZFMK-DIP-00053678, ZFMK-DIP-00053679, ZFMK-DIP-00053680, ZFMK-DIP-00053681, ZFMK-DIP-00054086 = ZFMK-TIS-8000963; • 1♂ 1♀; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053683, ZFMK-DIP-00053682 = ZFMK-TIS-8005550; • 2♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4525; • 2♂ 1♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4512; • 1♀; L31, 23 Jul 2018, A. Reimann leg.; ZFMK-TIS-8002672; • 1♂; L31, 21 Jul 2018, J. Astrin leg.; ZFMK-TIS-8000126; • 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054088; • 2♂ 2♀; L36, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053675, ZFMK-DIP-00053676 = ZFMK-TIS-8005558, ZFMK-DIP-00053674, ZFMK-DIP-00054085 = ZFMK-TIS-8000995; • 1♀; L40, 18 Jul 2018, B. Thormann leg.; ZFMK-DIP-00054087 = ZFMK-TIS-8002957; • 2♂ 2♀; L70, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4585, ZFMK-TIS-8002701, MTD-Dip-A-R-4581, ZFMK-TIS-8002700; • 1♂ 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4566, ZFMK-TIS-8002737; • 2♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4575, ZFMK-TIS-8002771.

Genetics. We sequenced seven specimens (MN622114, MN622115, MN622116, MN622117, MN622118, MN622119, MN622120) and their COI barcodes differ 0–0.46%. Our COI barcodes are very similar to previously published COI sequnces of the same species (99.54–100% similarity), but they are also 100% similar to a private sequence of *Xanthandrus babyssa* (Walker, 1849) from Madeira, Portugal.

Distribution. Palaearctic.

Remarks. The year of publication for this species is a convention. Peck (1988) used the conventional dates based on Lisney (1960): 1776 for decad 1, 1776? for decad 2, and 1780? for decads 3, 4, and 5. Evenhuis (1997: page 342) found that the decad 2, where *Musca comtus* is described on page 47, was dated as 1778 in the "*Discours préliminaires*" to the *Encyclopédie méthodique par ordre des matières – Insectes*. Thus, the year of publication should be 1778.

Xanthogramma citrofasciatum (De Geer, 1776)

Reference. Tóth (1986); Peck (1988); Gudjabidze (2002); Speight (2018a).

Distribution. Europe, Transcaucasia, European parts of Russia into Siberia.

Remarks. Thompson et al. (1982) synonymised *Musca citrofasciata* De Geer, 1776 under *Musca festiva* Linnaeus, 1758 (= *Xanthogramma festiva*) and explained that the name *festiva* was wrongly applied to a species of the genus *Chrysotoxum* Meigen, 1803 by several authors. Iliff and Chandler (2000) proposed to keep the usage of Chrysotoxum festivum (Linnaeus, 1758) and Xanthogramma citrofasciatum (De Geer, 1776) and designated neotypes. The International Commission on Zoological Nomenclature (ICZN) voted to preserve the neotypes and names' usage as proposed by Iliff and Chandler (2000) (ICZN 2001).

Xanthogramma dives (Rondani, 1857)

New records. GEORGIA • 1♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002731; • 1♀; L72, 29 Jun–13 Jul 2018, malaise trap, GGBC-members leg.; ZFMK-TIS-8002766.

Genetics. The two collected specimens were sequenced (MN622121, MN622122) and their COI barcodes are identical. Our COI sequences are identical (100% similarity) with published sequences of *Xanthogramma pedissequum* (Harris, 1778) and *X. stackelbergi* Violovich, 1975.

Distribution. Europe, but it needs reassessment due to confusion with *X. stackelbergi* and *X. pedissequum* (Speight 2018a).

Remarks. As shown by Nedeljković et al. (2018: fig. 40), *X. dives*, *X. stackelbergi* and *X. pedissequum* share some COI haplotypes and the separation of these taxa using barcoding is not straightforward. Reported for Georgia for the first time.

Xanthogramma maculipenne Mik, 1887

Reference. Peck (1988).

Distribution. Former Yugoslavia, Iran and Transcaucasia.

Remarks. Speight (2018a) did not list this taxon as a European species as it has not been mentioned in any recent literature from the former Yugoslavia. Mik (1887) described this species from an undefined number of males and females collected in Göygöl (= Helenendorf = Khanlar), Azerbaijan. He stated that his new species was similar to *X. pedissequum* (as *ornatum* Meigen) but also mentioned their differences: four yellow maculae on the pleuron (like in *X. dives* and *X. stackelbergi*; see Van Steenis et al. 2014), almost entirely dark metatibia, wing with two dark maculae (one at the apical part of the cell r_{2+3} and another one reaching cells r_1 and r_{4+5}), and the coloration of the membrane between abdominal tergites and sternites (yellow between the tergite 2 and sternite 2, and also yellow on basal half between tergite 3 and sternite 3). Violovitsh (1975) keyed out *X. maculipenne* near *Xanthogramma evanescens* Becker in Becker & Stein, 1913, a taxon described from Morocco, based on a dark apical macula on the wing; but *X. dives* was not included in Violovitsh (1975) as it was considered a junior synonym of X. *pedissequum* at that time. Based on the original description, this taxon is very similar to *X. dives*. The study of the type material is needed to resolve and confirm the identity of this taxon.

Xanthogramma pedissequum (Harris, 1778)

Reference. Levitin (1962) as *Xanthogramma ornatum* Mg.; Tóth (1986); Peck (1988); Gudjabidze (2002) as *Xanthogramma pedisequm* Harris, 1776 [sic].

Distribution. Europe, but it needs reassessment due to confusion with *X. stackelbergi* and *X. dives*.

Remarks. *Xanthogramma ornatum* (Meigen, 1822) was listed as a synonym by Peck (1988).

The year of publication for this species was a convention. Peck (1988) used the conventional dates as established by Lisney (1960): 1776 for decad 1, 1776? for decad 2, and 1780? for decads 3, 4, and 5. Evenhuis (1997: page 342) found that the decad 2, where *Musca pedissequus* is described on page 61, was dated as 1778 in the "*Discours préliminaires*" to the *Encyclopédie méthodique par ordre des matières – Insectes*. Thus, the year of publication should be 1778.

Xanthogramma stackelbergi Violovich, 1975

New records. GEORGIA • 1♀; L35, 24 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054098 = ZFMK-TIS-8000953.

Genetics. We sequenced the single collected female (MN622123). See comments on Genetics and Remarks under *X. dives*.

Distribution. Needs reassessment, but known from Europe, Crimea, and European parts of Russia.

Remarks. Reported for Georgia for the first time.

Xylota (*Xylota*) *abiens* Wiedemann in Meigen, 1822

Reference. Peck (1988); Speight (2018a).

Distribution. Palaearctic.

Xylota (*Xylota*) *florum* (Fabricius, 1805)

Reference. Peck (1988); Speight (2018a).

Distribution. Northern and Central Europe, Transcaucasia, eastwards into Siberia.

Xylota (*Xylota*) *ignava* (Panzer, 1798)

Reference. Peck (1988); Barkalov and Mutin (2018).

New records. GEORGIA • 1♂ 1♀ *1; L10, 22 Jun 2018, S. Bot leg. & obs.

Distribution. Palaearctic, but not in northern Africa.

Xylota (*Xylota*) *segnis* (Linnaeus, 1758)

Reference. Levitin (1962) as *Zelima segnis* L.; Tóth (1986); Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 1♂ *1; L21, 2 Jul 2018, S. Bot leg. & obs.; • 6♂ 2♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053761, ZFMK-DIP-00053762, ZFMK-DIP-00053763, ZFMK-DIP-00053764 = ZFMK-TIS-8005567, ZFMK-DIP-00053765, ZFMK-DIP-00054105 = ZFMK-TIS-8000961, ZFMK-DIP-00053767, ZFMK-DIP-00054104 = ZFMK-TIS-8000958; • 1♂; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00054107; • 2♂; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4520; • 2♀; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053766 = ZFMK-TIS-8005575, ZFMK-DIP-00054106; • 2♀; L69, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4518, ZFMK-TIS-8002673.

Genetics. Three specimens were sequenced (MN622124, MN622125, MN622126) and their COI barcodes are identical. The Barcode Index Number Registry lists a BIN for this taxon (BOLD:AAG4673) with an average p-distance of 0.03%

among the BIN members (0.49% max) and a p-distance of 5.26% to the nearest neighbour in BOLD systems, *Xylota coquilletti* Hervé-Bazin, 1914 (BOLD:AAZ0875).

Distribution. Palaearctic and eastern North America.

Xylota (*Xylota*) *sylvarum* (Linnaeus, 1758)

Reference. Levitin (1962) as *Zelima silvarum* L. [sic]; Tóth (1986); Peck (1988) as *Xylota silvarum* Linnaeus, 1758 [sic]; Gudjabidze (2002).

New records. GEORGIA • 3♂ 1♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053751, ZFMK-DIP-00053752, ZFMK-DIP-00053979 = ZFMK-TIS-8003455, ZFMK-DIP-00053760; • 2♀; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4511, ZFMK-TIS-8002671; • 1♀; L31, 21 Jul 2018, D. Tarkhnishvili leg.; ZFMK-TIS-8000092; • 1♂; L37, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053756; • 1♀; L38, 25 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053757; • 1♂ 1♀; L69, 18 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4519, MTD-Dip-A-R-4500.

Genetics. Two specimens were sequenced (MN622127, MN622128) and their COI barcodes are identical. The Barcode Index Number Registry lists a BIN for this taxon (BOLD:AAZ8002) with an average p-distance of 0.15% within the BIN (1.37% max).

Remarks. See under *X. xanthocnema* Collin, 1939.

Distribution. Palaearctic, but not in northern Africa.

Xylota (*Xylota*) *tarda* Meigen, 1822

Reference. Levitin (1962) as *Zelima tarda* Mg.; Peck (1988); Gudjabidze (2002); Barkalov and Mutin (2018); Speight (2018a).

New records. GEORGIA • 4♂; L3, 17 Jun 2018, S. Bot leg.; • 1♂; L8, 20 Jun 2018, S. Bot leg.

Distribution. Palaearctic, but not in northern Africa.

Remarks. The new specimens reported here are remarkably larger in size compared to Western European specimens.

Xylota (*Xylota*) *xanthocnema* Collin, 1939

Reference. Peck (1988); Speight (2018a).

New records. GEORGIA • 1♂ 2♀; L24, 17 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053753, ZFMK-DIP-00053758, ZFMK-DIP-00054018 = ZFMK-TIS-8000957; • 1♂ 1♀; L25, 18 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053754 = ZFMK-TIS-8005566, ZFMK-DIP-00053978 = ZFMK-TIS-8003447; • 1♀; L30, 19 Jul 2018, X. Mengual leg.; ZFMK-DIP-00053759 = ZFMK-TIS-8005574; • 1♂; L31, 23 Jul 2018, A. Reimann leg.; MTD-Dip-A-R-4522; • 1♂; L36, 24 Jul 2018,

X. Mengual leg.; ZFMK-DIP-00053755; • 1♀; L38, 25 Jul 2018, J. Thormann leg.; ZFMK-DIP-00054103 = ZFMK-TIS-8004026; • 2♀; L71, 30 Jun–14 Jul 2018, malaise trap, GGBC-members leg.; MTD-Dip-A-R-4565, ZFMK-TIS-8002755.

Genetics. Four specimens with identical COI barcode were sequenced (MN622129, MN622130, MN622131, MN622132). Our barcodes are very similar (98.32–100% similarity) to other sequences of *X. xanthocnema*, and quite similar to sequences of other species, such as *X. florum* (97.05% similarity) or *X. sylvarum* (96.56% similarity).

Distribution. Europe, European parts of Russia, and Transcaucasia.

Remarks. The specimens reported here do have partially black metatibiae. Using the comprehensive identification key to *Xylota* species by Speight (2017) they would key out as *Xylota sylvarum*, but the male genitalia clearly confirm their identity as *X. xanthocnema*. In overall appearance these specimens are smaller than those of *X. sylvarum* and the golden abdominal hairs are lighter and restricted to a smaller area. All the material previously identified as *X. sylvarum* from this region needs to be re-evaluated.

Unrecognized taxa

Gudjabidze (2002) has many systematic and nomenclatural errors. We have tried to correct them updating the nomenclature and assuming some freedom regarding the authorship stated by Gudjabidze. There are three species names that we could not place in the current systematics of Syrphidae and thus, we left them as *nomen dubium*. These taxa are cited by Gudjabidze (2002) as *Syrphus campestris* Verrall, *Chrysotoxum macqarti* Loew, 1848 and *Arctophila musatovi* (Fallen, 1817) [sic]. For the first name we have no suggestion; we believe that the second name refers to *Chrysogaster macquarti* Loew, 1843 (see next paragraph); and the third name might refer to *Syrphus mussitans* Fabricius, 1777, a junior synonym of *Sericomyia superbiens* (Müller, 1776).

Peck (1988) cited *Chrysogaster macquarti* Loew, 1843 from Transcaucasia and Gudjabidze (2002) cited it as *Chrysogaster macquart* Loew, 1848 [sic] and as *Chrysotoxum macqarti* Loew, 1848 [sic]. According to Maibach et al. (1994b) *Chrysogaster macquarti* Loew, 1843 is a composite taxon in which *Melanogaster aerosa* (Loew, 1843) and *Melanogaster parumplicata* (Loew, 1840) were confused. Thus, we decided to exclude from the present work the citations of *C. macquarti* by Peck (1988) and Gudjabidze (2002), as it is not possible to corroborate the identity of this material and it could either be *M. aerosa* or *M. parumplicata* or even both.

Speight (2018a) stated that *Syritta vittata* Portschinsky, 1875 reaches the southeast edge of Europe, in the Caucasus. Lyneborg and Barkemeyer (2005) gave the following distribution range: from South Russia over the Central Asiatic republics to Iran and westernmost Pakistan. Lyneborg and Barkemeyer (2005) studied two specimens (male and female) from "Asia Centr.", Chiva. This location may refer to Khiva, Uzbekistan, and the locality in South Russia studied by Lyneborg and Barkemeyer (2005) should be Sarepta (now Krasnoarmeysky Rayon, a district of Volgograd). Volvograd Oblast is part of the Northern Caucasus, but the northern part of the North-

ern Caucasus is part of the typically called European parts of Russia and is far from the Caucasus Mountain range (Greater Caucasus). Thus, we decided to not include this species in the present checklist, but we acknowledge the possibility that this species can occur in Georgia.

Discussion

The flower fly fauna of Georgia is quite similar to the fauna found in Central Europe, with some species endemic of Transcaucasia and a few more species occurring also in Turkey and Iran (see Kustov 2006). The DNA COI sequences obtained for the present work are the first DNA barcodes of Syrphidae ever published from Georgia and enlarge the knowledge on the molecular variability for the studied species.

Five very common Palaearctic species were collected abundantly, i.e., *Melanostoma mellinum* (218 specimens), *Syrphus ribesii* (109), *Sphaerophoria scripta* (94), *Eristalis tenax* (88), and *Melanostoma scalare* (86). Two species recorded for the first time from Georgia were collected in relatively large numbers, i.e., *Neoascia subannexa* (36) and *Syrphocheilosia claviventris* (25). These taxa are not ubiquitous but can be found in relatively large numbers locally on sites they occur. This prompts us to continue our survey of the Syrphidae fauna in Georgia and in the Caucasus Region in the coming years, as we expect more species to be recorded from this country.

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References

Ačanski J, Vujić A, Djan M, Vidaković DO, Ståhls G, Radenković S (2016) Defining species boundaries in the *Merodon avidus* complex (Diptera, Syrphidae) using integrative taxonomy, with the description of a new species. European Journal of Taxonomy 237: 1–25. https://doi.org/10.5852/ejt.2016.237

Astrin JJ, Stüben PE (2008) Phylogeny in cryptic weevils: molecules, morphology and new genera of western Palaearctic Cryptorhynchinae (Coleoptera: Curculionidae). Invertebrate Systematics 22: 503–522. https://doi.org/10.1071/IS07057

Bańkowska R (1964) Studien über die paläarktischen Arten der Gattung *Sphaerophoria* St. Farg. et Serv. (Diptera, Syrphidae). Annales Zoologici 22(15): 285–353.

Barjadze S, Gratiashvili N (2010) Aphids (Hemiptera: Aphidoidea) of the Ajameti reserve (Georgia). Caucasian Entomological Bulletin 6(1): 19–22. https://doi.org/10.23885/1814-3326-2010-6-1-19-22

Barkalov AV (1993) Hover flies of the genus *Cheilosia* Meigen, 1822 (Diptera, Syrphidae) of the Caucasus. Entomologicheskoe obozrenie 72(3): 698–727. [in Russian; English version published in: Barkalov AV (1994) Hover flies of the genus *Cheilosia* Meiegn, 1822 (Diptera, Syrphidae). Entomological review 73(5): 28–58]

Barkalov AV, Mutin V (2018) Checklist of the hover-flies (Diptera, Syrphidae) of Russia. Euroasian Entomological Journal 17(6): 466–510. https://doi.org/10.15298/euroasentj.17.6.12

Barkalov AV, Nielsen TR (2007) A new *Platycheirus* species of the *manicatus* subgroup (Diptera, Syrphidae) from Caucasus. Norwegian Journal of Entomology 54: 129–134. http://www.entomologi.no/journals/nje/2007-2/pdf/NJE-vol54-nr2-barkalov.pdf

Barkalov AV, Ståhls G (1997) Revision of the Palaearctic bare-eyed and black-legged species of the genus *Cheilosia* Meigen (Diptera, Syrphidae). Acta Zoologica Fennica 208: 1–74.

Becker T (1921) Neue Dipteren meiner Sammlung. Mitteilungen aus dem Zoologischen Museum in Berlin 10: 1–93. https://doi.org/10.1002/mmnz.4830100102

Bergh JC, Short BD (2008) Ecological and life-history notes on syrphid predators of woolly apple aphid in Virginia, with emphasis on *Heringia calcarata*. BioControl 53: 773–786. https://doi.org/10.1007/s10526-007-9114-0

Biesmeijer JC, Roberts SPM, Reemer M, Ohlemüller R, Edwards M, Peeters T, Schaffers AP, Potts SG, Kleukers R, Thomas CD, Settele J, Kunin WE (2006) Parallel declines in pollinators and insect-pollinated plants in Britain and the Netherlands. Science 313(5785): 351–354. https://doi.org/10.1126/science.1127863

Bigot JMF (1880) Dipteres nouveaux ou peu connus. 13e partie. XX. Quelques Dipteres de Perse et du Caucase. Annales de la Société Entomologique de France (5) 10: 139–154.

Bot S, Van der Meutter F (2019) Veldgids Zweefvliegen. KNNV Uitgeverij, Zeist, 388 pp.

Brădescu V (1991) Les Syrphides de Roumanie (Diptera, Syrphidae). Clés de détermination et répartition. Travaux du Museum National d'Histoire Naturelle "Grigore Antipa" 31: 7–83.

Brown BV (2009) Introduction. In: Brown BV, Borkent A, Cumming JM, Wood DM, Woodley NE, Zumbado MA (Eds) Manual of Central American Diptera, Vol. 1. NRC CNRC Research Press, Ottawa, 1–7.

Bugg RL, Colfer RG, Chaney WE, Smith HA, Cannon J (2008) Flower flies (Syrphidae) and other biological control agents for aphids in vegetable crops. UC ANR Publication 8285. https://doi.org/10.3733/ucanr.8285

Claußen C, Goeldlin de Tiefenau P, Lucas JAW (1994) Zur Identität von *Pipizella heringii* (Zetterstedt) var.*hispanica* Strobl, 1909 – mit Typenrevision der paläaktischen Arten der Gattung *Heringia* Rondani, 1856, sensu stricto (Diptera: Syrphidae). Bulletin de la Société Entomologique Suisse 67: 309–326.

Claußen C, Speight MCD (1988) Zur Kenntnis von *Cheilosia vulpina* (Meigen, 1822) und *Cheilosia nebulosa* Verrall, 1871 (Diptera, Syrphidae). Bonn zoologische Beiträge 39(1): 19–28.

Claußen C, Speight MCD (1999) On the identity of *Cheilosia ruralis* (Meigen, 1822) (Diptera, Syrphidae) – with a review of its synonymies. Volucella 4(1/2): 93–102.

Claußen C, Speight MCD (2007) Names of uncertain application and some previously unpublished synonyms, in the European *Cheilosia* fauna (Diptera, Syrphidae). Volucella 8: 73–86.

Claußen C, Ståhls G (2007) A new species of *Cheilosia* Meigen from Thessaly/Greece, and its phylogenetic position ((Diptera, Syrphidae). Volucella 8: 45–62.

Claußen C, Thompson C (1996) Zur Identität und Synonymie der von Camillo Rondani beschreibenen *Cheilosia*-Arten (Diptera, Syrphidae). Studia dipterologica 3: 275–281.

Dirickx HG (1998) Catalogue synonymique et géographique des Syrphidae (Diptera) de la région Afrotropicale. Instrumenta biodiversitatis 2, Muséum d'histoire naturelle Genève. Geneva, 187 pp.

Doczkal D (1996a) Schwebfliegen aus Deutschland: Erstnachweise und wenig bekannte Arten (Diptera, Syrphidae). Volucella 2: 36–62.

Doczkal D (1996b) Description of two new species of the genus *Eumerus* (Diptera, Syrphidae) from Corsica. Volucella 2: 3–19.

Doczkal D (2000a) Description of *Cheilosia ranunculi* spec.nov. from Europe, a sibling species of *C. albitarsis* Meigen (Diptera, Syrphidae). Volucella 5: 63–78.

Doczkal D (2000b) Redescription of *Leucozona nigripila* Mik and description of *Leucozona inopinata* spec. nov. (Diptera, Syrphidae). Volucella 5: 115–127.

Doczkal D (2002) Description of *Leucozona pruinosa* spec. nov. (Diptera, Syrphidae) from the Himalayas. Volucella 6: 41–43.

Doczkal D, Schmid U (1994) Drei neue Arten der Gattung *Epistrophe* (Diptera: Syrphidae), mit einem Bestimmungsschlüssel für die deutschen Arten. Stuttgarter Beiträge zur Naturkunde A (Biologie) 507: 1–32.

Doczkal D, Schmid U (1999) Revision der mitteleuropäischen Arten der Gattung *Microdon* Meigen (Diptera, Syrphidae). Volucella 4: 45–68.

Doesburg PH Van (1959) Een geval van synonymie in het genus *Chilosia* Mg. (Dipt. Syrphidae). Entomologische Berichten 19: 181.

Dušek J, Láska P (1985) A review of the genus *Scaeva* Fabricius (Diptera, Syrphidae) with the description of a new species from Chile. Acta Entomologica Bohemoslovaca 82: 206–228.

Eckberg JO, Peterson JA, Borsh CP, Kaser JM, Johnson GA, Luhman JC, Wyse DL, Heimpel GE (2015) Field abundance and performance of hoverflies (Diptera: Syrphidae) on soybean aphid. Annals of the Entomological Society of America 108(1): 26–34. http://doi.org/10.1093/aesa/sau009

Edwards EE, Bevan WJ (1951) On the Narcissus flies, *Merodon equestris* (F.) and *Eumerus tuberculatus* (Rond.) and their control. Bulletin of Entomological Research 41(3): 593–598. https://doi.org/10.1017/S000748530002784X

Evenhuis NL (1997) Literatura Taxonomica Dipterorum (1758–1930), volume I, A–K. Backhuys Publishers, Leiden, 426 pp.

Francuski L, Ludoški J, Vujić A, Milankov V (2011) Phenotypic evidence for hidden biodiversity in the *Merodon aureus* group (Diptera, Syrphidae) on the Balkan Peninsula: conservation implication. Journal of Insect Conservation 15(3): 379–388. https://doi.org/10.1007/s10841-010-9311-5

Geiger MF, Astrin JJ, Borsch T, Burkhardt U, Grobe P, Hand R, Hausmann A, Hohberg K, Krogmann L, Lutz M, Monje C, Misof B, Morinière J, Müller K, Pietsch S, Quandt D, Rulik B, Scholler M, Traunspurger W, Haszprunar G, Wägele W (2016) How to tackle the molecular species inventory for an industrialized nation — lessons from the first phase of the German Barcode of Life initiative GBOL (2012–2015) 1. Genome 59(9): 661–670. https://doi.org/10.1139/gen-2015-0185

Goeldlin de Tiefenau P (1989) Sur plusieurs espèces de *Sphaerophoria* (Dipt., Syrphidae) nouvelles ou méconnues des régions paléarctique et néarctique. Bulletin de la Société Entomologique Suisse 62: 41–66.

Goeldlin de Tiefenau P (1996) Sur plusieurs nouvelles espèces européennes de *Syrphus* (Diptera, Syrphidae) et clé des espèces paléarctiques du genre. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 69: 157–171.

Gudjabidze M (2002) Syrphidae (Diptera, Syrphidae) of Georgia. Proceedings of the Institute of Zoology, Tbilisi, 21: 240–250.

Haarto A, Ståhls G (2014) When mtDNA COI is misleading: congruent signal of ITS2 molecular marker and morphology for North European *Melanostoma* Schiner, 1860 (Diptera, Syrphidae). ZooKeys 431: 93–134. https://doi.org/10.3897/zookeys.431.7207

Hauser M (1998) Zur Schwebfliegenfauna (Diptera, Syrphidae) Aserbaidschans, mit der Beschreibung von zwei neuen Arten. Volucella 3: 15–26.

Hayat R, Claußen C (1997) A new species and new records of the genus *Paragus* Latreille, 1804 from Turkey (Diptera: Syrphidae). Zoology in the Middle East 14: 99–108. https://doi.org/10.1080/09397140.1997.10637710

Hebert PDN, Cywinska A, Ball SL, deWaard JR (2003a) Biological identifications through DNA barcodes. Proceedings of the Royal Society of London B 270: 313–321. https://doi.org/10.1098/rspb.2002.2218

Hebert PDN, Ratnasingham S, deWaard JR (2003b) Barcoding animal life: Cytochrome C oxidase subunit 1 divergences among closely related species. Proceedings of the Royal Society of London B 270: S96–S99. https://doi.org/10.1098/rsbl.2003.0025

Hippa H (1968) Classification of the Palaearctic species of the genera *Xylota* Meigen and *Xylotomima* Shannon (Dipt, Syrphidae). Annales Zoologici Fennici 34 (4): 179–197.

Hurkmans W (1993) A monograph of *Merodon* (Diptera: Syrphidae). Part 1. Tijdschrift voor Entomologie 136: 147–234.

ICZN (2001) Opinion 1982 (Case 3090). *Musca arcuata* Linnaeus, 1758 and *M. festiva* Linnaeus, 1758 (currently *Chrysotoxum arcuatum* and *C. festivum*) and *M. citrofasciata* De

Geer, 1776 (currently *Xanthogramma citrofasciatum*) (Insecta, Diptera): specific names conserved by the designation of neotypes for *M. arcuata* and *M. festiva*. Bulletin of Zoological Nomenclature 58(3): 241–242.

Iliff DA, Chandler, PJ (2000) Case 3090. *Musca arcuata* and *M. festiva* Linnaeus, 1758 (currently *Chrysotoxum arcuatum* and *C. festivum*) and *M. citrofasciata* De Geer, 1776 (currently *Xanthogramma citrofasciatum*) (Insecta, Diptera): proposed conservation of usage of the specific names by the designation of neotypes for *M. arcuata* and *M. festiva*. Bulletin of Zoological Nomenclature 57(2): 87–93. https://doi.org/10.5962/bhl.part.20686

Inouye D, Larson BMH, Ssymank A, Kevan PG (2015) Flies and flowers III: Ecology of foraging and pollination. Journal of Pollination Ecology 16 (16): 115–133. https://doi.org/10.26786/1920-7603(2015)15

Kazerani F, Talebi AA, Mengual X (2017) First record of *Chrysotoxum baphyrum* Walker from West Palaearctic (Diptera: Syrphidae), with key to species of *Chrysotoxum* Meigen from Iran. Bonn zoological Bulletin 66(2): 95–106. http://zoologicalbulletin.de/BzB_Volumes/Volume_66_2/95_106_BzB66_2_Kazerani_et_al.pdf

Khachidze Z (2013) *Eristalinus megacephalus*. In: Tarkhnishvili D, Chaladze G (Eds) Georgian biodiversity database. http://www.biodiversity-georgia.net/index.php?taxon=Eristalinus%20megacephalus

Krivosheina NP (2002) A morphological and faunal study of flies of the *Temnostoma bombylans* species-group (Diptera, Syrphidae). Entomological Review 82(9): 1254–1264.

Krivosheina NP (2004) The morphology of flies of the *Temnostoma apiforme* and *T. vespiforme* Groups (Diptera, Syrphidae): Communication II. Entomological Review 84(1): 100–117.

Krivosheina NP (2005) New data on the structure of the genus *Temnostoma* with redescription of *Temnostoma meridionale* (Diptera, Syrphidae). Entomological Review 85(3): 326–331.

Kustov SY (2006) Zoogeographical analysis of the hoverfly fauna (Diptera, Syrphidae) of the Northwestern Caucasus. Entomological Review 86(2): 188–196. https://doi.org/10.1134/S0013873806020072

Kuznetzov SY (1985) Hover-flies of the genus *Scaeva* Fabricius (Diptera, Syrphidae) of the Palaearctic fauna. Entomologicheskoe obozrenie 64(2): 398–418.

Kuznetzov SY (1987) New data on the systematics of the Palaearctic hover-flies (Diptera, Syrphidae). Entomologicheskoe obozrenie 66: 419–435.

Kuznetzov SY (1994) *Cryptoeristalis*, a new subgenus of *Eoseristalis* Latreille (Diptera: Syrphidae), with a description of a new species from Caucasus. International Journal of Dipterological Research 5: 231–238.

Kuznetzov SY (1997) Five new Palaearctic Syrphidae. International Journal of Dipterological Research 5: 231–238.

Lardé G (1989) Investigation on some factors affecting larval growth in a coffee-pulp bed. Biological Wastes 30: 11–19. https://doi.org/10.1016/0269-7483(89)90139-0

Levitin AJ (1962) К фауне сирфид окрестностей г. Боржоми Грузинской ССР [= On the syrphidfauna from the environs of Borjomi in Georgia = Zur Syrphidenfauna der Umgebung von Borsomi in der Grusinischen SSR]. Materials for the XV students' scientific conference, Rostov University: 100–103.

Lisney AA (1960) A bibliography of British Lepidoptera 1608–1799. Chiswick Press, London, 315 pp.

Locke MM, Skevington JH (2013) Revision of Nearctic *Dasysyrphus* Enderlein (Diptera: Syrphidae). Zootaxa 3660: 1–80. https://doi.org/10.11646/zootaxa.3660.1.1

Loew H (1854) Neue Beiträge zur Kenntnis der Dipteren, Zweiter Beitrag. Program der Königlichen Realschule zu Meseritz, 1854: 1–56.

Lucas JAW, Nielsen TR, Ståhls G (1995) The identity of the *Cheilosia* complex *vicina* (Zetterstedt, 1849) - *nigripes* (Meigen, 1822) (Diptera, Syrphidae). International Journal of Dipterological Research 6: 3–7.

Lyneborg L, Barkemeyer W (2005) The Genus *Syritta*, A World Revision of the Genus *Syritta* Le Pelletier and Serville, 1828 (Diptera: Syrphidae). Entomograph 15. Apollo Books, Denmark, 224 pp.

Maibach A, Goeldlin de Tiefenau P, Speight MCD (1994a) Limites génériques et caractéristiques taxonomiques de plusieurs genres de la Tribu des Chrysogasterini (Diptera: Syrphidae) I. Diagnoses génériques et description de *Riponnensia* gen.nov. Annales de la Société Entomologique de France (N.S.) 30: 217–247. https://doi.org/10.5962/bhl.part.79912

Maibach A, Goeldlin de Tiefenau P, Speight MCD (1994b) Limites génériques et caractéristiques taxonomiques de plusieurs genres de la Tribu des Chrysogasterini (Diptera: Syrphidae) II. Statut taxonomique de plusieurs des espèces étudiées et analyse du complexe *Melanogaster macquarti* (Loew). Annales de la Société Entomologique de France (N.S.) 30: 253–271. https://doi.org/10.5962/bhl.part.79912

Marcos-García MA, Vujić A, Mengual X (2007) Revision of Iberian species of the genus *Merodon* Meigen, 1803 (Diptera: Syrphidae). European Journal of Entomology 104: 531–572. https://doi.org/10.14411/eje.2007.073

Martínez-Falcón AP, Marcos-García MA, Moreno CE, Rotheray GE (2012) A critical role for *Copestylum* larvae (Diptera, Syrphidae) in the decomposition of cactus forests. Journal of Arid Environments 78: 41–48. https://doi.org/10.1016/j.jaridenv.2011.10.010

Mengual X (2018) A new species of *Ischiodon* Sack (Diptera, Syrphidae) from Madagascar. African Invertebrates 59(1): 55–73. https://doi.org/10.3897/AfrInvertebr.59.24461

Mengual X, Barkalov AV (2019) Two new species of *Rohdendorfia* (Diptera: Syrphidae) from Central Asia. Acta Entomologica Musei Nationalis Pragae 59(1): 325–336. http://doi.org/10.2478/aemnp-2019-0025

Mengual X, Ståhls G, Láska P, Mazánek L, Rojo S (2018) Molecular phylogenetics of the predatory lineage of flower flies *Eupeodes-Scaeva* (Diptera: Syrphidae), with the description of the Neotropical genus *Austroscaeva* gen. nov. Journal of Zoological Systematics and Evolutionary Research 56: 148–169. https://doi.org/10.1111/jzs.12212

Mik J (1887) Diagnosen neuer Dipteren. Wiener entomologische Zeitung 6: 161–164. https://doi.org/10.5962/bhl.part.17747

Mik J (1888) Dipterologische Miscellen. X. Wiener entomologische Zeitung 7: 140–142. https://doi.org/10.5962/bhl.part.27383

Milankov V, Ludoški J, Ståhls G, Stamenković J, Vujić A (2009) High molecular and phenotypic diversity in the *Merodon avidus* complex (Diptera, Syrphidae): cryptic speciation in a

diverse insect taxon. Zoological Journal of the Linnean Society 155 (4): 819–833. https://doi.org/10.1111/j.1096-3642.2008.00462.x

Milankov V, Ståhls G, Stamenković J, Vujić A (2008) Genetic diversity of populations of *Merodon aureus* and *M. cinereus* species complexes (Diptera, Syrphidae): integrative taxonomy and implications for conservation priorities on the Balkan Peninsula. Conservation Genetics 9(5): 1125–1137. https://doi.org/10.1007/s10592-007-9426-8

Milankov V, Vujić A, Ludoski J (2001) Genetic divergence among cryptic taxa of *Merodon avidus* (Rossi, 1790) (Diptera: Syrphidae). International Journal of Dipterological Research 12 (1): 15–24.

Mittermeier RA, Robles-Gil P, Hoffmann M, Pilgrim J, Brooks T, Mittermeier CG, Lamoreux J, Da Fonseca GAB (2004) Hotspots Revisited: Earth's Biologically Richest and Most Endangered Terrestrial Ecoregions. CEMEX/Agrupación Sierra Madre, 391 pp.

Mutin VA (2001b) Review of *Sphegina claviventris* species-group (Diptera, Syrphidae) with description of a new species from Japan. Far Eastern Entomologist 107: 1–8. http://www.biosoil.ru/Files/FEE/00000142.pdf

Mutin VA, Barkalov AV (1999) 62. Fam. Syrphidae - hoverflies. In: Lehr PA (Ed) Key to the insects of Russian Far East. Vol. 6. Diptera and Siphonaptera. Part 1. Dal'nauka, Valdivostok, 342–500. [in Russian]

Mutin VA, Ichige k (2018) An unusual new species of the genus *Brachypalpus* Macquart (Diptera: Syrphidae) from Eastern Asia. Journal of Asia-Pacific Entomology 21: 1064–1070. https://doi.org/10.1016/j.aspen.2018.07.022

Mutin, V.A. (2001a) New data on the taxonomy of the Palaearctic hover-flies (Diptera, Syrphidae). Far Eastern Entomologist 99: 19–20. http://www.biosoil.ru/Files/FEE/00000128.pdf

Myers N, Mittermeier RA, Mittermeier CG, da Fonseca GAB, Kent J (2000) Biodiversity hotspots for conservation priorities. Nature 403(6772): 853–858. https://doi.org/10.1038/35002501

Nedeljković Z, Ricarte A, Šašić Zorić L, Đan M, Obreht Vidaković D, Vujić A (2018) The genus *Xanthogramma* Schiner, 1861 (Diptera: Syrphidae) in southeastern Europe, with descriptions of two new species. The Canadian Entomologist 150(4): 440–464. http://doi.org/10.4039/tce.2018.21

Nelson EH, Hogg BN, Mills NJ, Daane KM (2012) Syrphid flies suppress lettuce aphids. BioControl 57: 819–826. https://doi.org/10.1007/s10526-012-9457-z

Nielsen TR (1995) Studies on some northern *Eristalis* species (Diptera, Syrphidae). International Journal of Dipterological Research 6: 129–133.

Oboňa J, Dvořák L, Haenni J-P, Hrivniak Ľ, Japoshvili B, Ježek J, Kerimova I, Máca J, Murányi D, Rendoš M, Słowińska I, Snegovaya N, Starý J, Manko P (2019) New and interesting records of Diptera from Azerbaijan and Georgia. Zoosystematica Rossica, 28(2): 277–295. https://doi.org/10.31610/zsr/2019.28.2.277

Paramonov SJ (1926a) Fragmente zur Kenntnis der Dipteren-Fauna Armeniens. Societas entomologica, Stuttgart 41: 33–34, 38–39, 44, 46–47.

Paramonov SJ (1926b) Über einige neue Arten und Varietäten von Dipteren (Fam. Stratiomyidae et Syrphidae). Zapiski Fiziko-Matematicheskomo Viddilu Vseukrains'ka Akademiya Nauk **2**(1): 87–93.

Paramonov SJ (1927a) Fragmente zur Kenntnis der Dipteren-Fauna Armeniens. Societas entomologica, Stuttgart 42: 2–4, 9–11, 15–16, 19–20, 24.

Paramonov SJ (1927b) Dipterologische Fragmente. V–VII. Zapiski Fiziko-Matematicheskomo Viddilu Vseukrains'ka Akademiya Nauk 4(4): 317–325.

Peck LV (1988) Family Syrphidae. In: Soós Á, Papp L (Eds) Catalogue of Palaearctic Diptera, volume 8. Budapest, Hungary, Akadémiai Kiadó, 11–230.

Pérez-Bañón C, Juan A, Petanidou T, Marcos-García MA, Crespo MB (2003a) The reproductive ecology of *Medicago citrina* (Font Quer) Greuter (Leguminosae): a bee-pollinated plant in Mediterranean islands where bees are absent. Plant Systematics and Evolution 241: 29–46. http://doi.org/10.1007/s00606-003-0004-3

Pérez-Bañón C, Rojo S, Ståhls G, Marcos-García MA (2003b) Taxonomy of European *Eristalinus* (Diptera: Syrphidae) based on larval morphology and molecular data. European Journal of Entomology 100: 417–428. http://doi.org/10.14411/eje.2003.064

Popov GV (2007) The status of S. Ya. Paramonov's types (Syrphidae) is revised. Proceedings of the IV International Symposium on Syrphidae, Siikaranta, Finland: 34.

Popović D, Ačanski J, Djan M, Obreht D, Vujić A, Radenković S (2015) Sibling species delimitation and nomenclature of the *Merodon avidus* complex (Diptera: Syrphidae). European Journal of Entomology 112 (4): 790–809. https://doi.org/10.14411/eje.2015.100

Portschinsky JA (1877) Materialy dlya istorii faunyi Rossii i Kavkaza. Shmeleobraznye dvukrylye [= Contribution to history of the fauna of Russia and the Caucasus. Bee-like dipterans]. Trudy Russkago Entomologicheskago Obshchestva [= Horae Societatis Entomologicae Rossicae] 10: 102–198, pl. 3.

Portschinsky JA (1892) Diptera europaea et asiatica nova aut minus cognita. VII. Horae Societatis Entomologicae Rossicae 26: 201–227.

Radde GI (1899) Fam. Syrphidae. In: Radde GI (Ed) Museum Caucasicum. Collektsii Kavkazskogo Museya [Die Sammlungen des Kaukasischen Museums], Vol. 1. Zoology. Tiflis, 453.

Radenković S, Vujić A, Ståhls G, Pérez-Bañón C, Rojo S, Petanidou T, Simić S (2011) Three new cryptic species of the genus *Merodon* Meigen (Diptera: Syrphidae) from the island of Lesvos (Greece). Zootaxa 2735: 35–56. https://doi.org/10.11646/zootaxa.2735.1.5

Ramage T, Charlat S, Mengual X (2018) Flower flies (Diptera, Syrphidae) of French Polynesia, with the description of two new species. European Journal of Taxonomy 448: 1–37. https://doi.org/10.5852/ejt.2018.448

Ratnasingham S, Hebert PDN (2013) A DNA-based registry for all animal species: The Barcode Index Number (BIN) system. PLoS ONE 8(7): e66213. https://doi.org/10.1371/journal.pone.0066213

Reemer M, Hauser M, Speight MCD (2005) The genus *Myolepta* Newman in the West-Palaearctic region (Diptera, Syrphidae). Studia Dipterologica 11(2): 553–580 [2004].

Ricarte A, Marcos-García MA, Moreno C.E (2011) Assessing the effects of vegetation type on hoverfly (Diptera: Syrphidae) diversity in a Mediterranean landscape: implications for conservation. Journal Insect Conservation 15: 865–877. https://doi.org/10.1007/s10841-011-9384-9

Rotheray GE (1993) Colour guide to hoverfly larvae (Diptera, Syrphidae) in Britain and Europe. Dipterists Digest No. 9, England, 156 pp.

Rotheray GE, Gilbert F (1999) Phylogeny of Palaearctic Syrphidae (Diptera): evidence from larval stages. Zoological Journal of the Linnean Society 127: 1–112. https://doi.org/10.1111/j.1096-3642.1999.tb01305.x

Rotheray GE, Gilbert F (2011) The natural history of hoverflies. Forrest Text, Ceredigion, 333 pp.

Rozkošný R, Chvála M, Pont AC (1982) Diptera described by Johann Daniel Preyssler, 1790-1793. Scripta Facultatis Scientiarum Naturalis Univiversitatis 12: 349–356 + 3 pls.

Sack P (1928–1932) *Die Fliegen der Palaerktischen Region, 31. Syrphidae.* Stuttgart, Schweizerbart, 451 pp.

Šašić L, Ačanski J, Vujić A, Ståhls G, Radenković S, Milić D, Obreht Vidaković D, Đan M (2016) Molecular and morphological inference of three cryptic species within the *Merodon aureus* species group (Diptera: Syrphidae). PLoS ONE 11(8): e0160001. https://doi.org/10.1371/journal.pone.0160001

Schmid U (2004) *Microdon rhenanus* and *Microdon eggeri* var. *major* (Diptera, Syrphidae) revisited. Volucella 7: 111–124.

Schmidt MH, Thewes U, Thies C, Tscharntke T (2004) Aphid suppression by natural enemies in mulched cereals. Entomologia Experimentalis et Applicata 113: 87–93. https://doi.org/10.1111/j.0013-8703.2004.00205.x

Schönrogge K, Barr B, Wardlaw JC, Napper E, Gardner M.G, Breen J, Elmes GW, Thomas JA (2002) When rare species become endangered: cryptic speciation in myrmecophilous hoverflies. Biological Journal of the Linnean Society 75: 291–300. https://doi.org/10.1046/j.1095-8312.2002.00019.x

Seropian A (2013a) *Baccha obscuripennis*. In: Tarkhnishvili D, Chaladze G (Eds): Georgian biodiversity database. http://www.biodiversity-georgia.net/index.php?taxon=Baccha%20obscuripennis

Seropian A (2013b) *Milesia semiluctifera*. In: Tarkhnishvili D, Chaladze G (Eds): Georgian biodiversity database. http://www.biodiversity-georgia.net/index.php?taxon=Milesia%20semiluctifera

Shorthouse DP (2010) SimpleMappr, an online tool to produce publication-quality point maps https://www.simplemappr.net

Skevington J, Thompson FC (2012) Review of New World *Sericomyia* (Diptera: Syrphidae), including description of a new species. The Canadian Entomologist 144(2): 216–247. https://doi.org/10.4039/tce.2012.24

Skevington JH, Locke MM, Young AD, Moran K, Crins WJ, Marshall SA (2019) Field Guide to the Flower Flies of Northeastern North America.Princeton University Press, 511 pp. https://doi.org/10.2307/j.ctv7xbrvz

Skufjin KV (1967) Contributions to the Fauna of Hoverflies (Diptera, Syrphidae) of the Caucasian State Reserve. Trudy Voronezhskogo Gosudarstvennogo Zapoved Nuka 15: 50–66. [in Russian]

Skufjin KV (1976) New species of hover-flies (Diptera, Syrphidae) from the northern Caucasus. *Entomologicheskoe Obozrenie* 55(4): 931–933. [in Russian]

Smit J.T, Langeveld S.C (2018) A second record of *Merodon caucasicus* from the Netherlands (Diptera: Syrphidae). Entomologische berichten 78(5): 192–193.

Sommaggio D (1999) Syrphidae: can they be used as environmental bioindicators. *Agriculture,* Ecosystems and Environment 74: 343–356. http://doi.org/10.1016/S0167-8809(99)00042-0

Sommaggio D (2007) Revision of Diptera Syrphidae in Bellardi's collection, Turin. Bollettino Museo Regionale Scienze naturali Torino 24(1): 121–158.

Sommaggio D, Burgio G (2014) The use of Syrphidae as functional bioindicator to compare vineyards with different managements. Bulletin of Insectology 67(1): 147–156. http://www.bulletinofinsectology.org/pdfarticles/vol67-2014-147-156sommaggio.pdf

Sonet G, De Smet Y, Tang M, Virgilio M, Young AD, Skevington JH, Mengual X, Backeljau T, Liu S, Zhou X, De Meyer M, Jordaens K (2019) First mitochondrial genomes of five hoverfly species of the genus *Eristalinus* (Diptera: Syrphidae). Genome 62: 677–687. https://doi.org/10.1139/gen-2019-0009

Sorokina VS (2009) Hover flies of the genus *Paragus* Latr. (Diptera, Syrphidae) of Russia and adjacent countries. Entomological Review 89(3): 351–366. https://doi.org/10.1134/S0013873809030130

Speight MCD (1991) *Callicera aenea*, *C. aurata*, *C. fagesii* and *C. macquartii* redefined, with a key to and notes on the European *Callicera* species (Diptera: Syrphidae). Dipterists Digest 10: 1–25.

Speight MCD (2018a) Species accounts of European Syrphidae, 2018. Syrph the Net, the database of European Syrphidae (Diptera), Vol. 103. Syrph the Net publications, Dublin, 302 pp.

Speight MCD (2018b) StN key for the identification of the genera of European Syrphidae (Diptera) 2018. Syrph the Net, the database of European Syrphidae, Vol. 101. Syrph the Net publications, Dublin, 45 pp.

Speight MCD, Claußen C, Hurkmans W (1998) Révision des syrphes de la faune de France: III - Liste alphabétique des espèces des genres *Cheilosia*, *Eumerus* et *Merodon* et Supplément (Diptera, Syrphidae). Bulletin de la Société entomologique de France 103: 403–414.

Speight MCD, Lucas JAW (1992) Liechtenstein Syrphidae (Diptera). Berichte der Botanisch-Zoologischen Gesellschaft Liechtenstein-Sargans-Werdenberg 19: 327–463.

Speight MCD, Sarthou J-P (2017) StN keys for the identification of the European species of various genera of Syrphidae 2017. Syrph the Net, the database of European Syrphidae (Diptera), Vol. 99. Glasgow, 139 pp.

Ssymank A, Barkemeyer W, Claußen C, Löhr P-W, Scholz A (1999) Syrphidae. In: Schumann H, Bährmann R, Stark A (Eds) Checkliste der Dipteren Deutschlands. Entomofauna Germanica 2, Studia dipterologica Supplement 2, 195–203.

Ssymank A, Kearns C (2009) Flies-pollinators on two wings. In: Ssymank A, Hamm A, Vischer-Leopold M (Eds) Caring for pollinators – safeguarding agro-biodiversity and wild plant diversity. Bundesamt für Naturschutz, Bonn, 39–52. https://www.besnet.world/caring-pollinators-safeguarding-agro-biodiversity-and-wild-plant-diversity-current-progress-and-need

Stackelberg AA (1926) Contribution à la faune diptérologique de l'Arménie. Entomologicheskoe Obozrenie 20: 65–68. [in Russian]

Stackelberg AA (1952) Novye Syrphidae (Diptera) palearkticheskoy fauny. Trudy Zoologicheskogo Instituta. Akademiia Nauk SSSR, Leningrad 12: 350–400.

Stackelberg AA (1958) The Palaearctic species of the genus *Spilomyia* Mg. (Diptera, Syrphidae). Entomologicheskoe Obozrenie 37(3): 759–768. [in Russian]

Stackelberg AA (1960) New Syrphidae (Diptera) from the Caucasus. Entomologicheskoe Obozrenie 39(2): 438–449. [in Russian]

Stackelberg AA (1961): Palaearctic species of the genus *Eumerus* Mg. (Diptera, Syrphidae). Trudy Vsesojuznovo Entomologicheskovo Obshchestva 48: 181–229. [in Russian]

Stackelberg AA (1968) New species of hover flies (Diptera, Syrphidae) from the Caucasus. Entomologicheskoe Obozrenie 47(1): 227–232. [in Russian]

Stackelberg AA (1989) 49. Family Syrphidae. In: Bei-Bienko GYa (Ed) Keys to the Insects of the European USSR. Volume V, Diptera and Siphonaptera, Part II. Brill, Leiden,10–148 [originally published in Russian in 1970].

Stackelberg AA, Richter V (1968) Hover-flies (Diptera, Syrphidae) of the Caucasus. Trudy Vsesoyuznogo Entomologicheskogo Obshchstva 52: 224–274.

Ståhls G, Barkalov AV (2017) Taxonomic review of the Palaearctic species of the *Cheilosia caerulescens*-group (Diptera, Syrphidae). ZooKeys 662: 137–171. https://doi.org/10.3897/zookeys.662.11267

Ståhls G, Vujić A, Perez-Banon C, Radenkovic S, Rojo S, Petanidou T (2009) COI barcodes for identification of *Merodon* hoverflies (Diptera, Syrphidae) of Lesvos Island, Greece. Molecular Ecology Resources 9 (6): 1431–1438. https://doi.org/10.1111/j.1755-0998.2009.02592.x

Stuckenberg BR (1956) The immature stages of *Merodon bombiformis* Hull, a potential pest of bulbs in South Africa. (Diptera: Syrphidae). Journal of the Entomological Society of Southern Africa 19(2): 219–224. https://hdl.handle.net/10520/AJA00128789_4333

Stuke J-H, Claußen C (2000) *Cheilosia canicularis* auctt. – ein Artenkomplex. Volucella 5: 79–94.

Stuke J-H, Nielsen T (2002) A new species of *Platycheirus* from the central Caucasus (Diptera, Syrphidae). Norwegian Journal of Entomology 49(2): 109–113.

Thompson FC (2019) Syrphidae. Systema Dipterorum, version 2.4, 13,431 records. http://sd.zoobank.org/Nomenclator

Thompson FC, Pont AC (1994) Systematic Database of *Musca* names (Diptera). Theses Zoologicae 20: 1–219.

Thompson FC, Rotheray GE (1998) Family Syrphidae. In: Papp L, Darvas B (Eds) Contributions to a Manual of Palaearctic Diptera, volume 3. Science Herald, Budapest, 81–139.

Thompson FC, Torp E (1986) Synopsis of the European species of *Sphegina* Meigen (Diptera: Syrphidae). Entomologica Scandinavica 17: 235–268. https://doi.org/10.1163/187631286X00404

Thompson FC, Vockeroth JR, Speight MCD (1982) The Linnaean species of flower flies (Diptera: Syrphidae). Memoirs of the Entomological Society of Washington 10: 150–165.

Thormann J, Ahrens D, Anderson C, Astrin JJ, Mumladze L, Rulik B, Tarkhnishvili D, Espeland M, Geiger M, Hein N, Iankoshvili G, Karalashvili E, Mengual X, Morkel C, Neiber MT, Peters RS, Reimann A, Ssymank A, Wesener T, Ziegler J, Misof B (2019) A prel-

ude to the Caucasus Barcode of Life Platform (CaBOL): Biodiversity Days in Georgia in 2018 and 2019. Bonn zoological Bulletin 68(2): 275–296. https://doi.org/10.20363/bzb-2019.68.2.275

Tompsett A (2002) Narcissus: investigations into the control of large Narcissus fly (*Merodon equestris* (F)) using non-chemical methods. Acta Horticulturae 570: 391–394. https://doi.org/10.17660/ActaHortic.2002.570.55

Tóth S (1986) Beiträge zur Kenntnis der Schwebfliegen-Fauna des Südwest-Kaukasus (Diptera: Syrphidae). Folia Musei Historico-Naturalis Bakonyiensis 5: 85–98. https://doi.org/10.1002/mmnd.19920390417

Tóth S, Günther R (1992) Beiträge zur Kenntnis der Schwebfliegen-Fauna des Nordwest-Kaukasus (Diptera: Syrphidae). Deutsche Entomologische Zeitschrift 39: 409–420.

Tscharntke T, Klein AM, Kruess A, Steffan-Dewenter I, Thies C (2005) Landscape perspectives on agricultural intensification and biodiversity-ecosystem service management. Ecology Letters 8: 857–874. https://doi.org/10.1111/j.1461-0248.2005.00782.x

Tubić NK, Ståhls G, Ačanski J, Djan M, Vidaković DO, Hayat R, Khaghaninia S, Vujić A, Radenković S (2018) An integrative approach in the assessment of species delimitation and structure of the *Merodon nanus* species group (Diptera: Syrphidae). Organisms, Diversity and Evolution 18: 479–497. https://doi.org/10.1007/s13127-018-0381-7

Van der Goot VS (1981) De zweefvliegen van Noordwest-Europa en Europees Rusland, in het bijzonder van de Benelux. Koninklijke Nederlandse Natuurhistorische Vereniging, Amsterdam, 275 pp.

Van der Goot VS (1986) *Musca parallela* Harris, 1776, a name not available for *Helophilus triviltatus* (J.C. Fabricius, 1805). In: Van der Goot VS (Ed) Zweefvliegen in kleur. Koninklijke Nederlandse Natuurhistorische Vereniging, Amsterdam, 24.

Van Steenis J (2000) The West-Palaearctic species of *Spilomyia* Meigen (Diptera, Syrphidae). Mitteilungen der Schweizerischen Entomologischen Gesellschaft 73: 143–168.

Van Steenis J, Goeldlin de Tiefenau P (1998) Description of and key to the European females of the *Platycheirus peltatus* sub-group (Diptera, Syrphidae), with a description of the male and female of *P. islandicus* Ringdahl, 1930, stat.n. Bulletin de la Société Entomologique Suisse 71: 187–199.

Van Steenis J, Lucas JAW (2011) Revision of the West-Palaearctic species of *Pipizella* Rondani, 1856 (Diptera, Syrphidae). Dipterists Digest 18: 127–180.

Van Steenis J, Ricarte A, Vujić A, Birtele D, Spight MCD (2016) Revision of the West-Palaearctic species of the tribe Cerioidini (Diptera, Syrphidae). Zootaxa 4196 (2): 151–209. http://doi.org/10.11646/zootaxa.4196.2.1

Van Steenis W, Bot S, Barendregt A (2014) Twee nieuwe citroenzweefvliegen voor Nederland: *Xanthogramma dives* en *X. stackelbergi* (Diptera: Syrphidae). Nederlandse Faunistische Mededelingen Leiden 43: 27–35. http://www.repository.naturalis.nl/document/645906

Van Veen MP (2010) Hoverflies of Northwest Europe: identification keys to the Syrphidae, 2nd Edition. KNNV Publishing, Zeist, 247 pp.

Veselić S, Vujić A, Radenković S (2017) Three new Eastern-Mediterranean endemic species of the *Merodon aureus* group (Diptera: Syrphidae). Zootaxa 4254(4): 401–434. https://doi.org/10.11646/zootaxa.4254.4.1

Violovitsh NA (1973) New species of hover-flies of the genus *Chrysotoxum* Mb. (Diptera, Syrphidae) from Palaearctic. Entomologicheskoe Obozrenie 52: 924–934. [in Russian]

Violovitsh NA (1974) A review of the Palaearctic species of the genus *Chrysotoxum* Mg. (Diptera, Syrphidae). Entomologicheskoe Obozrenie 53: 196–217. [in Russian]

Violovitsh NA (1975) Brief survey of Palearctic species from the genus *Xanthogramma* Schiner (Diptera, Syrphidae). In: Tsherepanov AI (Ed) Taksonomiya i ecologiya zhivotnykh Sibiri (Novye I maloizvestnye vidy fauny Sibiri). Novosibirsk, Nauka, 90–106. [In Russian, English summary]

Violovitsh NA (1979) [A new genus and species of Syrphidae (Diptera) of the Palaearctic fauna]. Trudy Vsesoyuznogo entomologicheskogo Obshchestva 61: 190–191. [in Russian]

Vujić A (1996) Genus *Cheilosia* Meigen and related genera (Diptera: Syrphidae) on the Balkan peninsula. Monographs of the Department of natural sciences, Matica Srpska, Novi Sad, 81 pp.

Vujić A, Glumac, S. (1994) Fauna osolikih muva (Diptera: Syrphidae) Fruške gore [= Fauna of hover flies (Diptera: Syrphidae) of Fruška Gora]. Monographs of the Department of natural sciences, Matica Srpska, Novi Sad, 194 pp.

Vujić A, Nedeljković Z, Hayat R, Demirözer O, Mengual X, Kazerani F (2017) New data on the genus *Chrysotoxum* Meigen, 1803 (Diptera: Syrphidae) from North-East Turkey, Armenia, Azerbaijan and Iran including descriptions of three new species. Zoology in the Middle East. https://doi.org/10.1080/09397140.2017.1349241

Vujić A, Radenković S, Ačanski J, Grković A, Taylor M, Gökhan Şenol S, Hayat R (2015) Revision of the species of the *Merodon nanus* group (Diptera: Syrphidae) including three new species. Zootaxa 4006: 439–462. https://doi.org/10.11646/zootaxa.4006.3.2

Vujić A, Radenković S, Ståhls G, Ačanski J, Stefanović A, Veselić S, Andrić A, Hayat R (2012) Systematics and taxonomy of the *ruficornis* group of genus *Merodon* (Diptera: Syrphidae). Systematic Entomology, 37: 578–602. https://doi.org/10.1111/j.1365-3113.2012.00631.x

Vujić A, Šimić S, Radenković S (2002) New data about hoverflies diversity (Insecta: Diptera: Syrphidae) on the Fruška Gora Mountain (Serbia). Zbornik Matice srpske za prirodne nauke 103: 91–106. https://doi.org/10.2298/ZMSPN0201091V

Vujić A, Speight M, de Courcy Williams ME, Rojo S, Ståhls G, Radenković S, Likov L, Miličić M, Pérez-Bañón C, Falk S, Petanidou T (2020) Atlas of the Hoverflies of Greece (Diptera: Syrphidae). Leiden, Brill, 384 pp. https://doi.org/10.1163/9789004334670

Vujić A, Ståhls G, Ačanski J, Bartsch H, Bygebjerg R, Stefanović A (2013) Systematics of Pipizini and taxonomy of European *Pipiza* Fallén: molecular and morphological evidence (Diptera, Syrphidae). Zoologica Scripta 42: 288–305. https://doi.org/10.1111/zsc.12005

Wetzel FT, Bingham HC, Groom Q, Haase P, Kõljalg U, Kuhlmann M, Martin CS, Penev L, Robertson T, Saarenmaa H, Schmeller DS, Stoll S, Tonkin DT, Häuser CL (2018) Unlocking biodiversity data: Prioritization and filling the gaps in biodiversity observation data in Europe. Biological Conservation 221: 78–85. https://doi.org/10.1016/j.biocon.2017.12.024

Wright SG, Skevington JH (2013) Revision of the subgenus *Episyrphus* (*Episyrphus*) Matsumura (Diptera: Syrphidae) in Australia. Zootaxa 3683 (1): 51–64. https://doi.org/10.11646/zootaxa.3683.1.3

Zaitzev P (1912) Contribution à la faune des insects de l'Abchasie. Entomologicheskoe Obozrenie 12: 259–360. [in Russian]

Zazanashvili N, Sanadiradze G, Bukhnikashvili A, Kandaurov A, Tarkhnishvili D (2004) Caucasus. In: Mittermaier RA, Gil PG, Hoffmann M, Pilgrim J, Brooks T, Mittermaier CG, Lamoreux J, da Fonseca GAB (Eds) Hotspots revisited, Earth's biologically richest and most endangered terrestrial ecoregions CEMEX/Agrupacion, Sierra Madre, 148–153.

Zimina LV (1960) [On the fauna of hoverflies (Diptera, Syrphidae) of Transcaucasus]. Entomologicheskoe Obozrenie 39: 661–665. [in Russian]

Zimina LV (1976) Redkie i interesnye Syrphidae (Diptera) v kollektsii Zoologischeskogo muzeya MGU, 1. Issledovaniya po faune Sovetskogo Soyuza. Sborník Trudov Gosudarstvennogo Zoologischeskogo Muzeya 15: 149–182. [in Russian]

Supplementary material 1

Neighbor-joining tree using Jukes-Cantor model of the 328 COI sequences of the Syrphidae from Georgia, sequenced in our study

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Data type: molecular data

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